



**AMENIA TOWNSHIP LANDFILL  
START ONE  
ADMINISTRATIVE RECORD FILE  
INDEX OF DOCUMENTS**

**1.0 FACTUAL INFORMATION/DATA**

**1.2 Site Investigation**

- P. 100001- Report: Engineering Investigations at Inactive Hazardous Waste Sites in  
100104 the State of New York, Phase II Investigation, Old Amenia Landfill, Site  
No. 314006, Town of Amenia, Dutchess County, New York, prepared by  
Lawler, Matusky & Skelly Engineers, prepared for New York State  
Department of Environmental Conservation, April 1993.
- P. 100105- Report: Test Pit Installation Report, Old Amenia Town Landfill Site,  
100186 prepared by Tams Consultants, Inc., prepared for Superfund Standby  
Program, New York State Department of Environmental Conservation,  
October 6, 1998.

**2.0 DECISION DOCUMENTS**

**2.3 Documentation of State Involvement**

- P. 200001- Letter to Mr. Richard Caspe, Director, Emergency & Remedial Response  
200002 Division, U.S. EPA, Region II, from Mr. Michael J. O'Toole, Jr., Director,  
Division of Environmental Remediation, New York State Department of  
Environmental Conservation, re: Amenia Town Landfill Site (#3-14-006),  
Amenia(T), Dutchess County, Request for Emergency Removal, October  
5, 1998.

**3.0 PUBLIC PARTICIPATION**

**3.3 Fact Sheets**

- P. 300001- Fact Sheet: "EPA Superfund Removal Program, Amenia Town Landfill,  
300002 Amenia, New York," prepared by U. S. EPA, Region II, December 1998."



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- ☒ Harlem Valley Times, Amenia, NY
- ☒ Hyde Park Townsman, Hyde Park, NY
- ☒ Millbrook Round Table, Millbrook, NY
- ☒ Register Herald, Pine Plains, NY
- ☒ The Voice Ledger, LaGrange & Pleasant Valley, NY
- ☒ The Pawling News Chronicle, Pawling, NY

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Therese K. Mustello Melissa A. Swart

**Therese K. Mustello**  
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My Commission Expires 6/15/99

**NOTICE OF PUBLIC  
AVAILABILITY**

The United States Environmental Protection Agency Announces

The Availability of the Administrative Record for

the Amenia Town Landfill Site

The U.S. Environmental Protection Agency (EPA) announces the availability for public review of files comprising the administrative record for the selection of the removal action at the Amenia Town Landfill Site. The EPA seeks to inform the public of the availability of the record file at this repository and to encourage the public to comment on documents as they are placed in the record file.

The administrative record includes documents which form the basis for the selection of a removal action at this Site. Documents now in the record file include: the state referral letter, Test Pit Excavation Report and a Fact Sheet. Other documents may be added to the record files as site work progresses. These additional documents may include, but are not limited to, other technical reports, validated sampling data, comments, new data submitted by interested persons, and the EPA responses to significant comments.

The administrative record files are available for review during normal business hours at:

Amenia Free Library,  
Main Street, Amenia,  
NY 12501; Attention:  
Miriam Devine, (914)  
373-8273; U.S. EPA  
Region II, Removal Action  
Branch, 2890  
Woodbridge Avenue,  
Bldg. 209, Edison, NJ  
08837; (732) 906-6813.

Additional information is available at the following location: Guidance documents and technical literature-U.S. EPA-Region II, Removal Records Center, 2890 Woodbridge Avenue, Bldg. 205, Edison, NJ 08837; Phone: (732) 906-6980.

Written comments on the Administrative Record should be sent to: ~~Imma Hahn~~, On-Scene Coordinator, Removal Action Branch, U.S. EPA-Region II, 2890 Woodbridge Ave., Edison, NJ 08837.

# ENGINEERING INVESTIGATIONS AT INACTIVE HAZARDOUS WASTE SITES

## PHASE II INVESTIGATION

Old Amenia Landfill Site No. 314006  
Town of Amenia Dutchess County, New York

DATE: April 1993

### Report



Prepared for:  
**New York State**  
**Department of**  
**Environmental Conservation**

50 Wolf Road, Albany, New York 12233  
Thomas C. Jorling, *Commissioner*

Division of Hazardous Waste Remediation  
Michael J. OToole, Jr., P.E., *Director*

By:  
**Lawler, Matusky & Skelly Engineers**

100001



**ENGINEERING INVESTIGATIONS AT  
INACTIVE HAZARDOUS WASTE SITES  
IN THE STATE OF NEW YORK  
PHASE II INVESTIGATION**

**OLD AMENIA LANDFILL  
Town of Amenia, Dutchess County, New York  
NYSDEC I.D. No. 314006**



**Report**



**Prepared for**

**DIVISION OF HAZARDOUS WASTE REMEDIATION  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
50 Wolf Road, Albany, New York 12233  
Thomas C. Jorling, Commissioner**

**LMSE-93/0501&576/058**

**Prepared by**

**LAWLER, MATUSKY & SKELLY ENGINEERS  
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**April 1993**

**100002**

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## CHAPTER 1

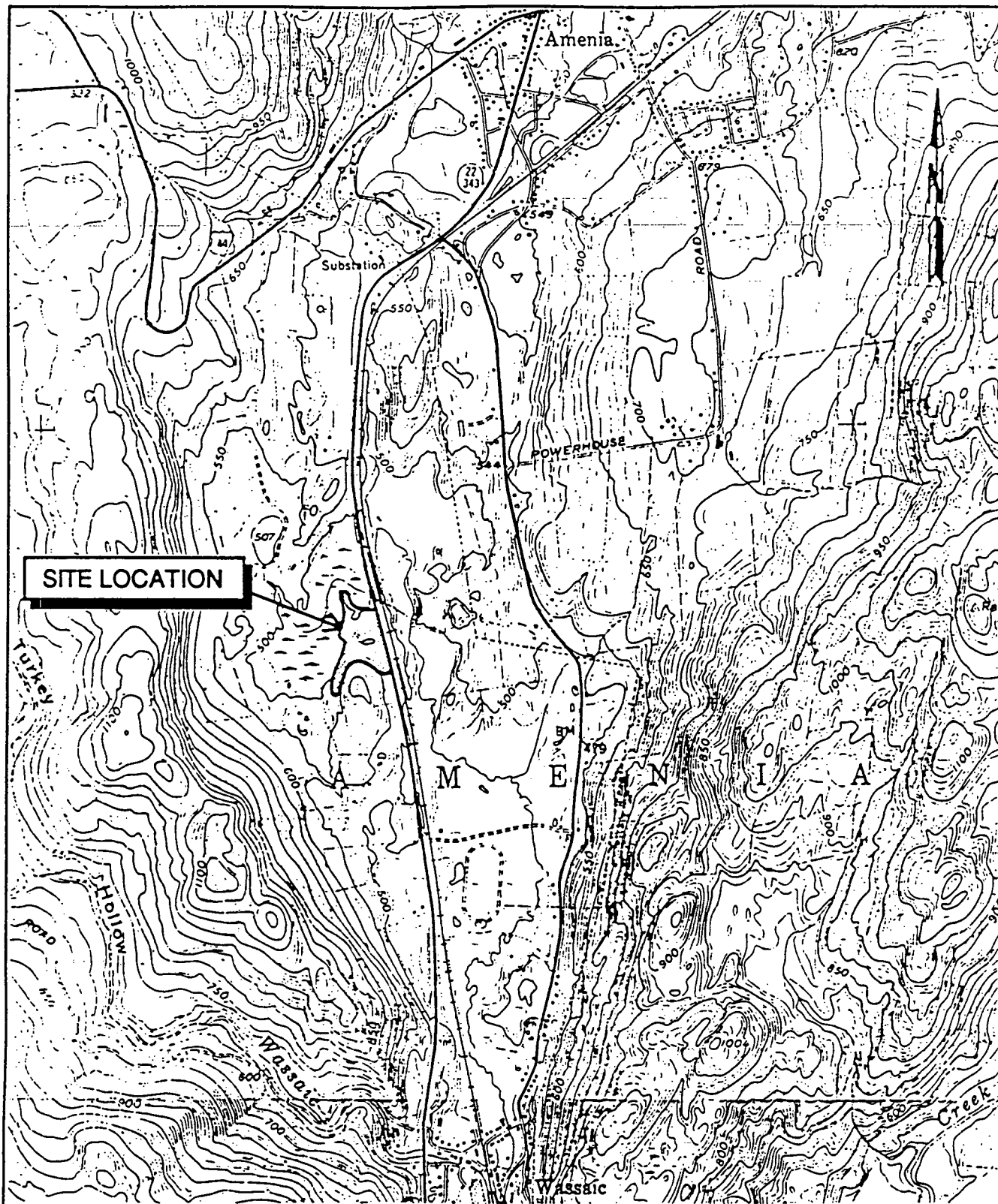
### EXECUTIVE SUMMARY

The Old Amenia Landfill site is located on the west side of Route 22 in the Town of Amenia, Dutchess County, New York (Figure 1-1). Except for a period between the end of 1968 and April 1971, the town used the 10-acre site as a municipal dump from the late 1940s until 1976. The northern portion of the site, currently owned by Mr. Karl Saliter of Sharon, Connecticut, is occupied by the Sharon Oil & Gas Company fuel storage enclosure, which consists of a number of aboveground storage tanks within a fenced, bermed area (Figure 1-2). Mr. John Segalla of Amenia is the present owner of the southern portion of the site. With the exception of a small helipad and paved access road, the southern portion is a well-graded, maintained, grassy area. Photos 1-4, which depict the site, are oriented to Figure 1-2.

During the period of operation of the site as a landfill, the ownership of the property changed several times. The Town of Amenia rented the property from William and Mary Murphy for disposal of municipal wastes from approximately 1947 until December 1968, when the property was sold to Salvatore (Ben) Surico. The town discontinued dumping at the site and opened an emergency disposal area on the property immediately north of the site.

Industrial wastes were known to be present at the site during the time Mr. Surico operated the landfill, from 1969 until April 1971. Dutchess County Department of Health (DCDOH) inspection records, a local newspaper article, and an aerial photograph of the site dated April 1970 confirm the presence of a large number of 55-gal drums stored in a bermed area at the site. Industrial wastes were reportedly removed from the barrels and transported off-site in tanker trucks; the empty drums were sold or crushed and buried on-site. Local residents, however, noted oil on the surface of the water in the nearby wetlands area and oil-like odors emanating from the site. In addition, DCDOH inspection reports document that industrial wastes were leaking onto the ground surface from barrels stored at the site.

In 1971 the Town of Amenia assumed responsibility for the operation of the landfill when Mr. Surico filed for bankruptcy. The town continued to operate the landfill for the disposal



**SITE LOCATION**

0 1000 2000 ft

Map source: USGS 7.5 minute Quadrangle map,  
Amenia, NY CT, 1958, photorevised 1984



**FIGURE 1-1**

**SITE LOCATION**

**OLD AMENIA LANDFILL**

NYSDEC I.D. No. 314008

1982 NYSDEC PHASE II INVESTIGATION

**LAWLER, MATUSKY & SKELLY ENGINEERS**  
Pearl River, New York



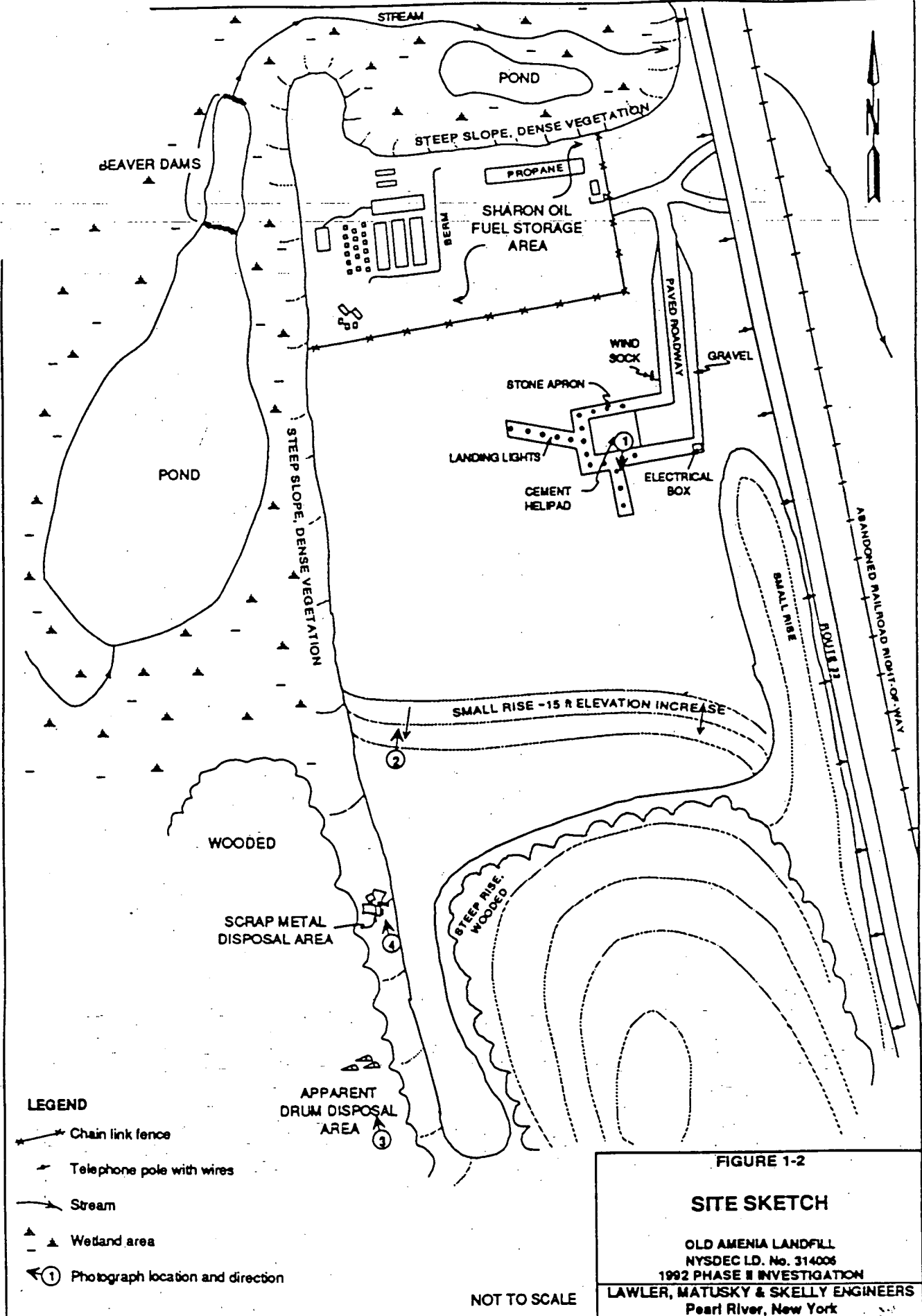




PHOTO 1. Southern half of central site area, taken from center of helipad looking south.



PHOTO 2. Helipad and central site area, taken from top of ridge in southwestern portion of site looking northeast.

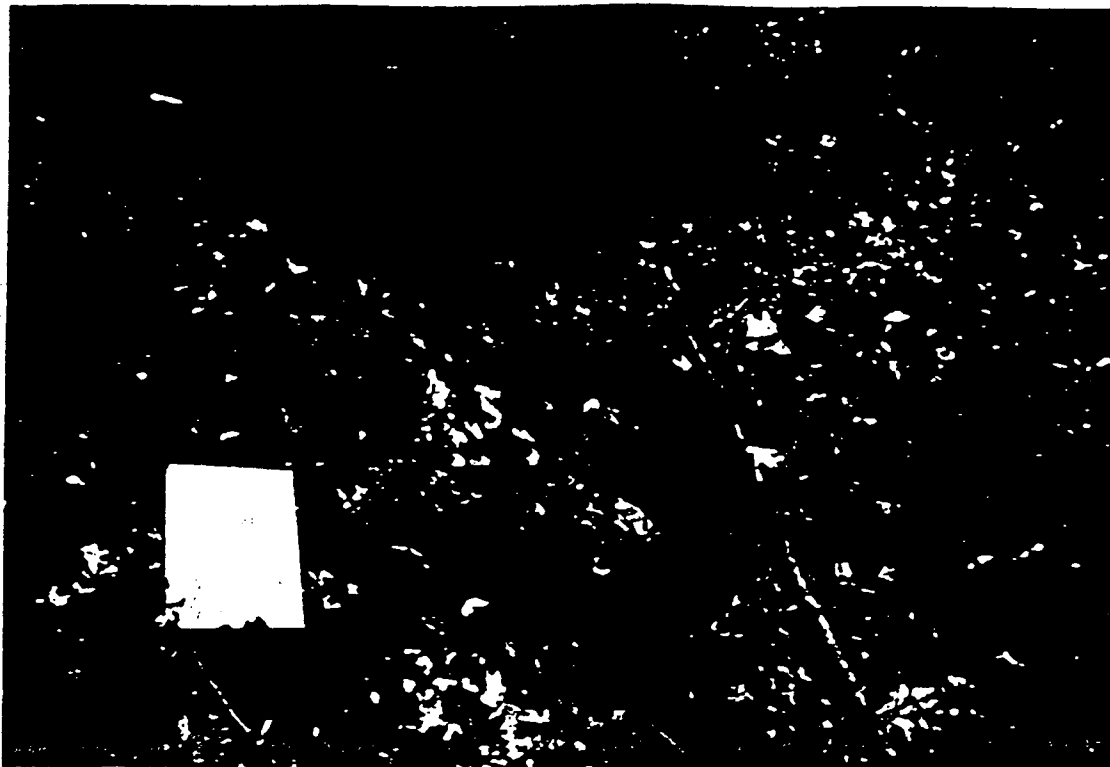


PHOTO 3. Drum disposal area west of access road near southern end.



PHOTO 4. Scrap metal disposal area on western bank of site near northern end of access road.

of municipal wastes until it was officially closed on 16 April 1976. Closure of the dump involved application of a soil cover of unknown depth and grading of the site.

The landfill was listed with the New York State Department of Environmental Conservation (NYSDEC) as a Reported Hazardous Waste Site in 1980 based on a site inspection that revealed evidence of drums in the southwest corner of the site in an area with no vegetative growth. The U.S. Environmental Protection Agency (EPA) identified the Old Amenia Landfill as a Potential Hazardous Waste Site in 1981. A Phase I investigation in August 1986 concluded that a Phase II investigation was needed to confirm the presence of hazardous wastes at the site and to determine whether any contamination present poses a significant threat to human health or the environment. In 1987 EPA collected a soil sample along the western side of the landfill during a limited field investigation. The sample contained 170 ppm of polychlorinated biphenyls (PCBs) (Aroclor 1248).

Lawler, Matusky & Skelly Engineers (LMS) was retained by NYSDEC to perform the Phase II investigation, which consisted of a geophysical survey, soil gas survey, and sampling and analysis of site soils, surface waters, and sediments. In addition, a literature search and an interview with a local resident familiar with the site history were conducted to obtain any available information on past waste disposal practices at the site.

The geophysical survey located several areas of potentially large concentrations of buried metallic materials. The results correlated well with the soil gas survey data, which identified three areas of high volatile organic compound (VOC) contamination in close proximity to the location of the identified magnetic anomalies. Vinyl chloride concentrations as high as  $340,000 \mu\text{g}/\text{m}^3$  were detected in soil gas samples obtained from the central site area between the helipad and the Sharon Oil fuel storage enclosure. It is suspected that a relatively large mass of buried metallic materials may exist at this location.

Surface soil samples collected along the western slope of the landfill during the Phase II investigation were analyzed for PCBs using an on-site mobile laboratory. Fifteen of the 20 samples analyzed contained detectable levels of PCBs, with concentrations ranging from 23 to 250 mg/kg. The sample with the highest identified PCB concentration was obtained from

the same area as the NUS Corporation sample collected in 1987 that contained 170 ppm PCBs (Aroclor 1248). Ten of the 20 surface soil samples with the highest PCB concentrations were also analyzed for VOCs in the on-site mobile laboratory. Only one sample had detectable concentrations of a VOC (ethylbenzene).

Four additional surface soil samples were collected from the locations showing the highest PCB concentrations in samples analyzed by the mobile laboratory; these samples were sent to a fixed laboratory for analysis. All four samples contained detectable levels of PCBs, with concentrations ranging from 0.12 mg/kg in the sample obtained at the southern end of the site near the apparent drum disposal area to 48 mg/kg in the sample obtained near the western end of the Sharon Oil fuel storage enclosure fence. These samples did not show detectable levels of VOC contamination, although the soil gas survey found moderate to high levels of VOCs at several locations. Because of the high mobility of VOCs in soil, volatile constituents in surface soils are likely to have volatilized to the atmosphere or migrated to subsurface soils or groundwater. The relatively high levels of VOCs detected in the soil gas indicate the likelihood of a substantial source of subsurface contamination.

Surface water and sediment samples were collected from the wetlands adjacent to the site. Significant VOC, semivolatile organic, pesticide, or metals contamination was not detected in the surface water/sediment samples. PCBs, however, were detected in three of the sediment samples and in one of the surface water samples, indicating that PCBs are migrating from the site to the adjacent wetlands.

Based on the detection of PCBs in site soils, surface water, and sediments, the New York State Division of Fish and Wildlife has determined that the Old Amenia Landfill poses a significant threat to wildlife. Therefore, the Old Amenia Landfill has been classified as a Class 2 site. A remedial investigation of the site is warranted to fully delineate the extent and magnitude of the contamination present, assess the degree and rate of migration of contaminants from the site, and evaluate the threat posed to human health and the environment by the contamination.

As part of the remedial investigation, LMS recommends the following field activities:

- **Soil Sampling:** Additional soil samples should be collected throughout the site to delineate the extent of PCB contamination. In addition, subsurface samples should be collected from soil borings installed at the site to determine whether PCB contamination exists below the surface.
- **Test Trenches:** LMS recommends the installation of approximately five test pits to locate - and immediately remove - any buried drums containing industrial or hazardous wastes. The test trenches should be excavated in areas that showed magnetic anomalies indicative of buried masses of metallic objects and had VOC concentrations in the soil gas samples, as determined during the Phase II investigation.
- **Groundwater Monitoring:** A groundwater monitoring program is recommended to assess the existence and migration of VOC or PCB contamination in the aquifer underlying the site. This program would involve the installation of at least one upgradient and three downgradient monitoring wells to obtain pertinent data on the site stratigraphy, groundwater flow regime, and water quality.
- **Biomonitoring:** LMS recommends a biomonitoring program to determine the extent of bioaccumulation of PCBs in aquatic organisms in the wetlands adjacent to the site. A two-stage program is the most cost-effective approach. Appropriate species for monitoring would be identified in the first stage, and an adequate number of organisms to provide statistically significant results for evaluating the impact of PCB contamination on aquatic species would be obtained and analyzed in the second stage.

## CHAPTER 2

### OBJECTIVES

Lawler, Matusky & Skelly Engineers (LMS), under contract to the New York State Department of Environmental Conservation (NYSDEC), conducted a Phase II investigation of the Old Amenia Landfill site located in the Town of Amenia, Dutchess County, New York. The investigation was targeted to (1) confirm the presence of hazardous wastes at the site; (2) adequately assess whether contaminants from the site have been released to the surrounding environment; (3) determine whether there is a significant threat to the environment or public health; (4) prepare final Hazard Ranking System (HRS) scores if directed to do so by NYSDEC; and (5) make recommendations for any appropriate future actions at the site.

Specific objectives of this Phase II investigation were to:

- Conduct a literature search to obtain any available information on past waste disposal practices at the site.
- Conduct a geophysics survey, a soil gas survey, and environmental sampling and analysis to identify and evaluate the presence, concentration, and nature of contamination and determine, to the extent limited by the scope of work, its release (if any) to the environment.
- Using information compiled in the study, determine the significance of any contaminant release and the degree to which it may threaten surrounding areas.
- Prepare a report documenting all findings, with a recommendation to classify or delist the site, if appropriate, or to proceed with additional site investigative work.

The Old Amenia Landfill Phase II investigation is discussed in detail in Chapters 3 and 4. This report includes the following appendices:

- A - Data Usability Summary
- B - Pertinent Files or Records

## CHAPTER 3

### DESCRIPTION OF PHASE II INVESTIGATION

#### 3.1 LITERATURE REVIEW

Before initiating field activities, LMS reviewed relevant files on the Old Amenia Landfill at the Dutchess County Department of Health (DCDOH), the New York State Department of Health (NYSDOH), the NYSDEC Region 3 and Central offices, and EPA Region II offices. In addition, a local resident familiar with the history of the site was interviewed (Ref. 1). The literature review was performed to update the site history information presented in the Phase I report and to reevaluate it for completeness and accuracy. Site history details obtained in the literature review are presented in Section 4.1.

#### 3.2 SITE RECONNAISSANCE

LMS personnel conducted a site reconnaissance on 9 October 1991 (Ref. 2). The objectives of the site visit were to confirm site conditions as described in the approved work plan, determine ease of equipment access, and perform air monitoring. Potential soil gas sampling and test trench locations were also identified during the reconnaissance. Results of the site reconnaissance are discussed in Section 4.4.1.

#### 3.3 GEOPHYSICS SURVEY

A geophysics survey was performed to locate the best areas for test pit excavation as recommended in the work plan for the Old Amenia Landfill site. Results of the survey were reviewed in conjunction with the soil gas survey results to determine whether the two surveys agreed on the locations of potential areas of subsurface contamination.

Two methods of geophysical investigation were used at the site: a surface magnetometry survey and resistivity measurements. The magnetometer accurately records the total magnetic field at many individual locations. Thus, magnetometry surveys are most applicable for



locating buried masses of metallic objects such as drums. The total magnetometer reading measures several components: the main magnetic field (which remains constant over a period of time), an external field (which changes over relatively short time intervals during the survey), and a third field that results from any anomalies that affect the main field. The external field varies over the course of the day; to effectively compensate for this, additional readings are collected at a fixed base station of known field intensity. The variations recorded at this location during the survey are then used to adjust the corresponding main-field measurements.

Anomalies within the main field may be created by both small and large magnetic masses. Force created by a magnetic object is directly proportional to the mass of the object and inversely proportional to the distance of the object from the point of measurement. The main field is created by a large mass (the earth's core) at a vast distance from the ground surface; this field may be altered by a relatively small object much closer to the point of measurement. A larger object or mass at a greater depth could also affect the main-field measurement.

The magnetometry survey was conducted over the entire site surface. The only areas excluded were on the northern and western sides of the site where the steep slopes made transversing for measurement collection nearly impossible. Areas within the confines of the chain-link fence (Sharon Oil & Gas Company property) and the footprint of the helipad were also not surveyed. A 10-ft grid pattern was used for data collection. Multiple readings were made at each station to measure the stability of the external field. Results of the magnetometry survey are discussed in Section 4.4.2.

An electrical resistivity survey was conducted at five locations on the site. Electrical resistivity surveys measure the apparent resistivity of subsurface materials by introducing an electrical current into the ground between two electrodes separated by a known distance. A second pair of electrodes is used to measure the difference in potential. Various spacings of electrodes are used to measure the apparent resistivity of materials at different depths above and below the saturated zone. The results of each measurement can be compared with known values for specific materials and subsurface conditions. The data and known values

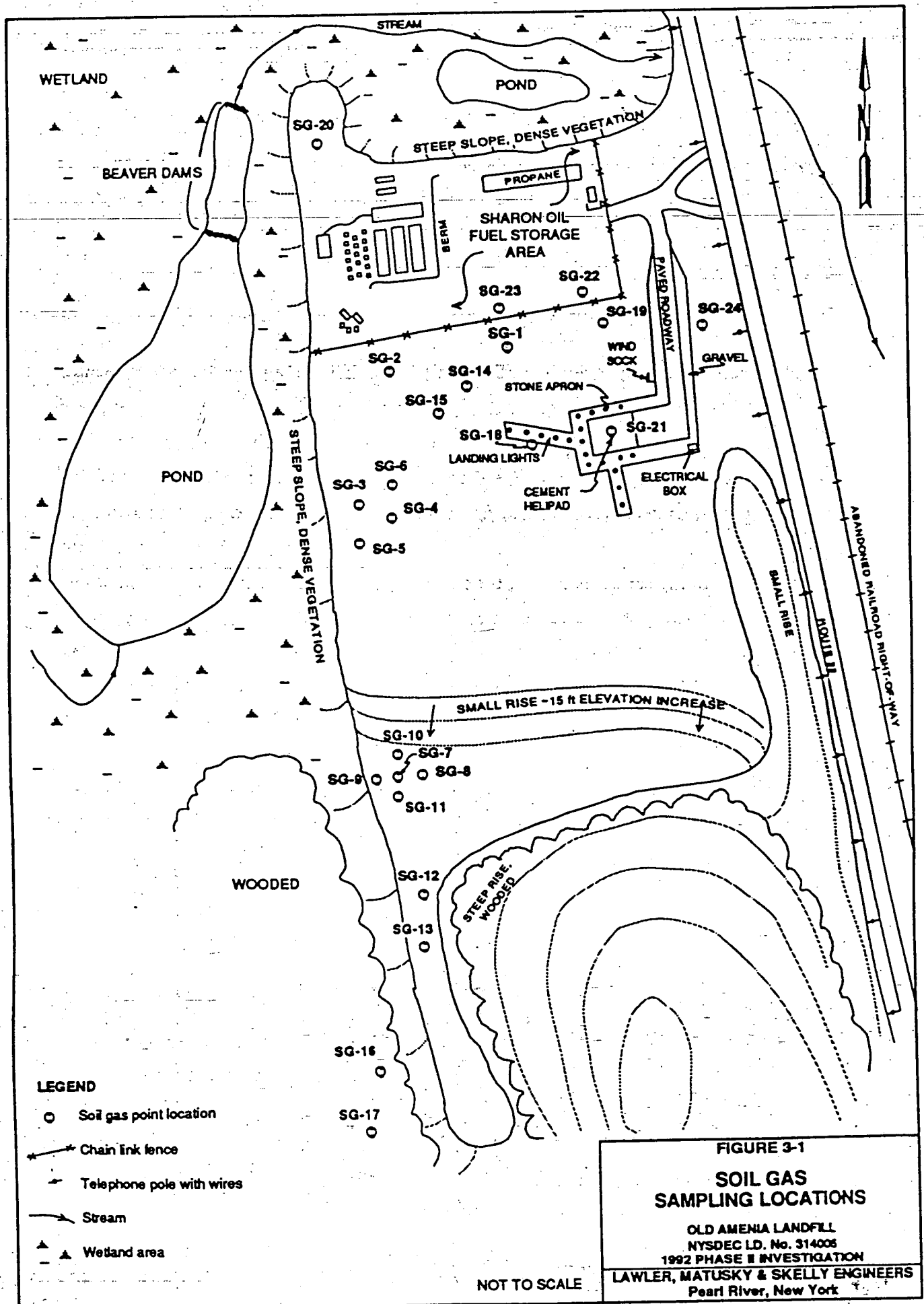
are then used to assess the nature of subsurface conditions at the site. Limits of fill areas, depth to water table, and generalized stratigraphic layering can be determined by using vertical electrical soundings (VES). Results of the electrical resistivity survey are also included in Section 4.4.2.

### 3.4 SOIL GAS SURVEY

A soil gas survey was conducted at the Old Amenia Landfill site between 5 and 7 November 1991. The 24 soil gas points installed at the locations shown on Figure 3-1 were concentrated in areas identified during the site reconnaissance as potential locations for test trenches. Twelve points were installed south of the Sharon Oil fuel tank enclosure in the central landfill area; two points, immediately inside the fuel storage area fence; one point, in the peninsula north of the Sharon Oil enclosure; five points, around the unvegetated, slumped area on the southwest side of the central portion of the site; two points, at the northern end of the access road leading to the reported drum disposal area; and two points, near the drum disposal area in the southwest corner of the site. Soil gas samples were analyzed on-site for volatile organic compounds (VOCs) by Tetra-K Testing of Westfield, Massachusetts, using a mobile laboratory (Ref. 3).

To obtain the best results, soil gas points were installed 3 to 6 ft below grade to prevent groundwater from being introduced into the sampling system. A slam bar was used initially to drive the guide hole. Upon removal, the slam bar was inspected for moisture to determine whether the saturated zone had been penetrated. If the slam bar met refusal, a new hole was made 1 to 2 ft away.

The steel soil gas point was then assembled with Teflon tubing, inserted into the original hole, and driven to the desired depth. The hammer and rod assembly was subsequently removed from the hole, leaving the point and attached tubing in place. Sand was used to backfill around the tubing up to 1 ft above the point to provide a capture area for soil gases. Bentonite powder and water were then used to backfill the remainder of the hole, thus creating a seal above the point. A clay seal was installed around the tubing at grade level to prevent any inflow of ambient air during purging and sampling of the hole. Finally, a clay



plug was inserted at the end of the tube to prevent debris from entering the tubing prior to sampling. (The construction details of a typical soil gas point are shown in Figure 3-2.)

Measured soil gas samples were obtained using a portable pumping system. Samples can be obtained at any time after installation of a point except immediately after precipitation. Sampling is typically delayed for 24 hrs following a rainstorm to allow the saturated upper soil layer to reach equilibrium.

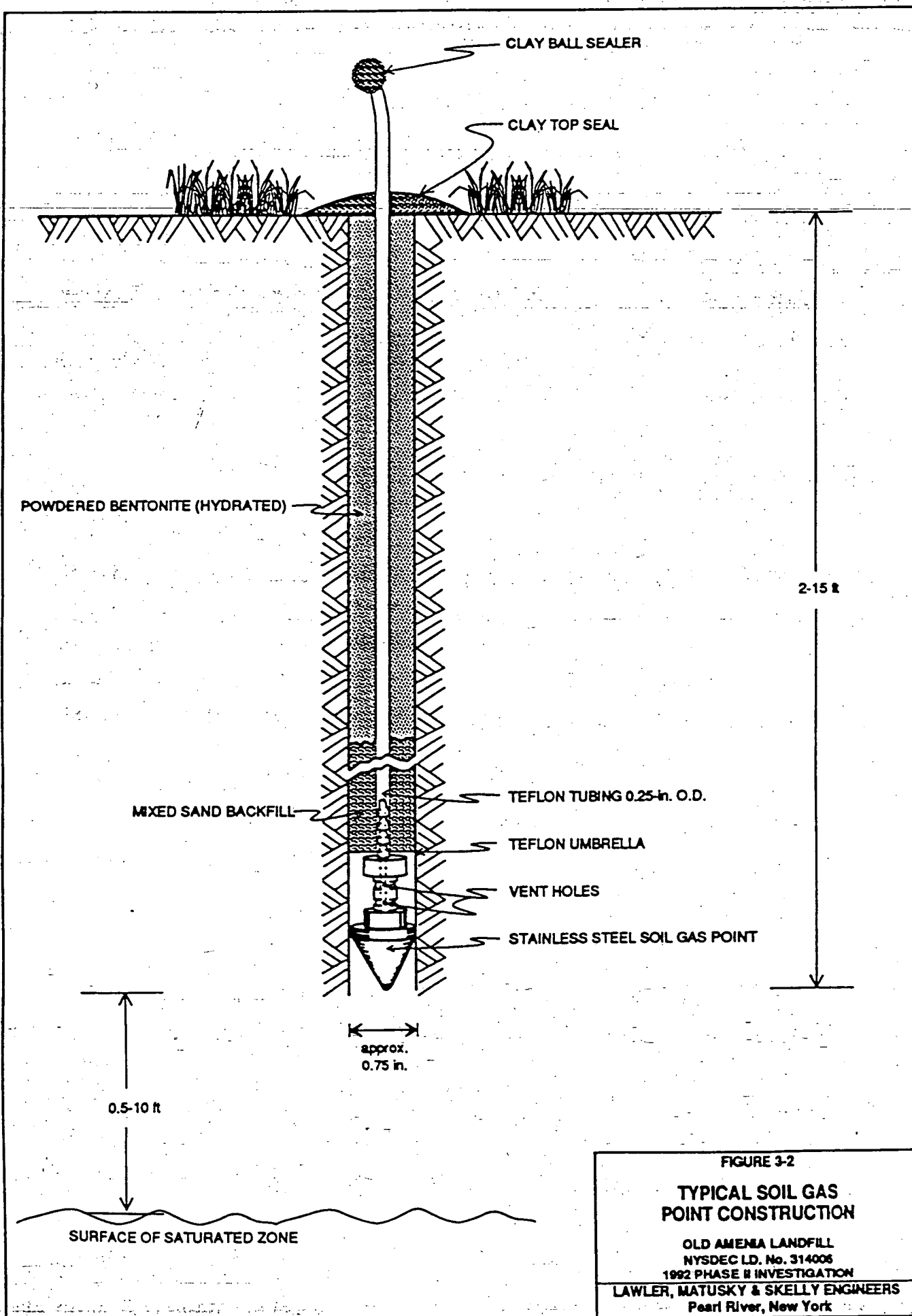
### 3.5 SAMPLING

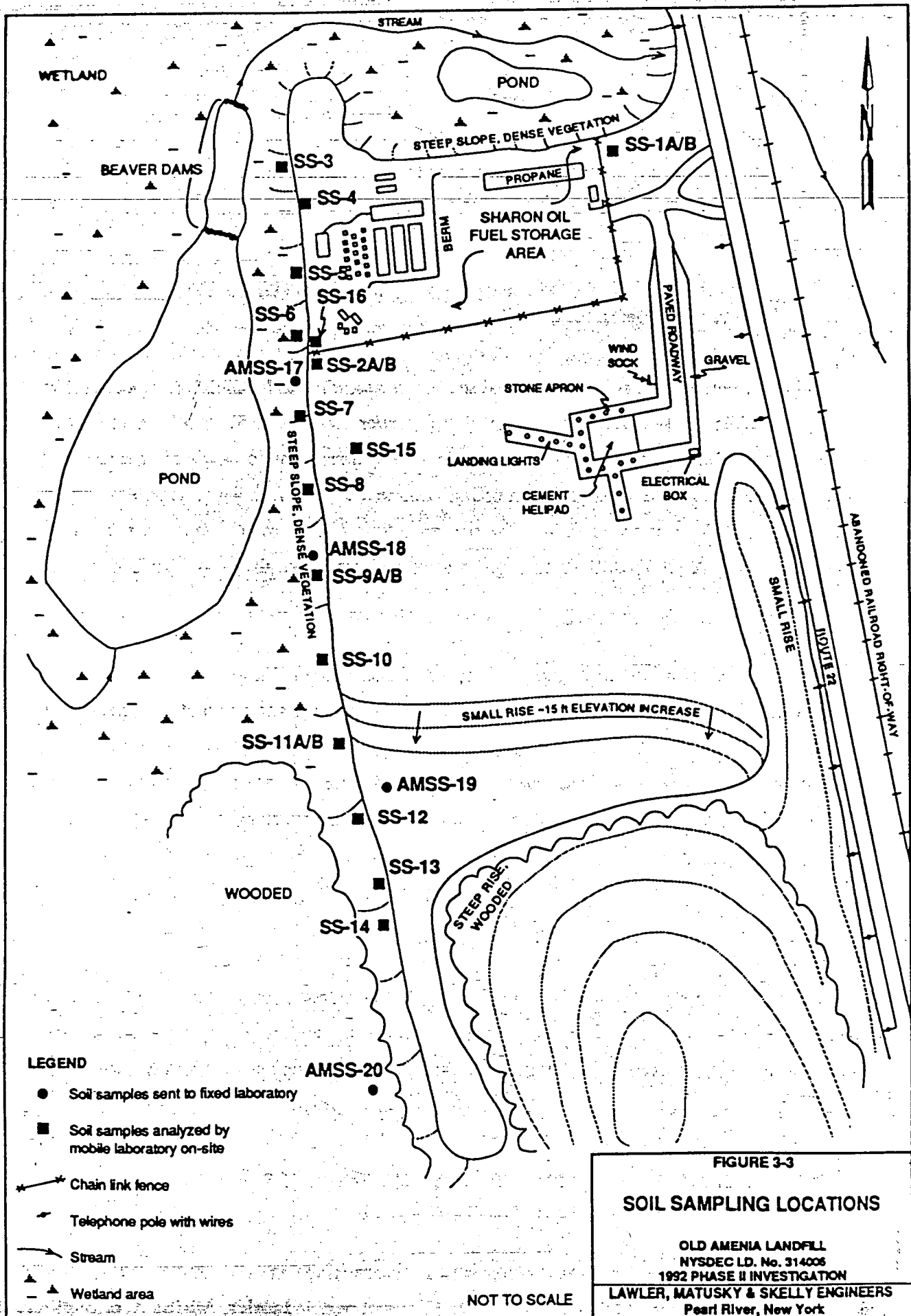
#### 3.5.1 Surface Soil Sampling

Surface soil sampling was conducted at the Old Amenia Landfill site on 7 and 8 November 1991 to confirm and quantify any PCB contamination present. Samples were analyzed in the on-site mobile laboratory so that if "hot spots" were found, additional soil samples could be collected from those locations for analysis at a fixed laboratory. Twenty surface soil samples were collected from a depth of 0-6 in. at the locations shown on Figure 3-3. Eight of these samples were taken from locations corresponding to sampling locations NY66-S1, -S2, -S3, and -S4 selected by NUS Corporation (under contract to EPA) during the 1987 field investigation of the site (Ref. 4). Samples were collected every 50 ft (total of 10) at the base of the western slope of the site beginning at the northern end of the Sharon Oil enclosure fence line. The remaining two samples were collected at the locations of highest observed PCB concentrations based on the on-site mobile laboratory analyses.

All soil samples were analyzed on-site for PCBs using the mobile laboratory. In addition, the 10 (of 20) soil samples with the highest levels of PCB contamination as determined by on-site analyses were analyzed for target compound list (TCL) VOCs.

On 11 November 1991 four additional surface soil samples were collected for analysis at a fixed analytical laboratory. Two samples were collected from the locations with the highest field-measured PCB concentrations (SS-17 and -18, as shown on Figure 3-3). One sample was collected from the unvegetated bare spot in the southwestern portion of the central site area





(SS-19) and one from the drum disposal area in the southwestern corner of the site (SS-20). Matrix spike/matrix spike duplicate (MS/MSD) samples were collected at sampling location SS-19. All samples were packed in ice chests and shipped via overnight courier to a fixed laboratory for full TCL organics (including PCBs), metals, cyanide, extraction procedure (EP) toxicity, reactivity, ignitability, and corrosivity analyses.

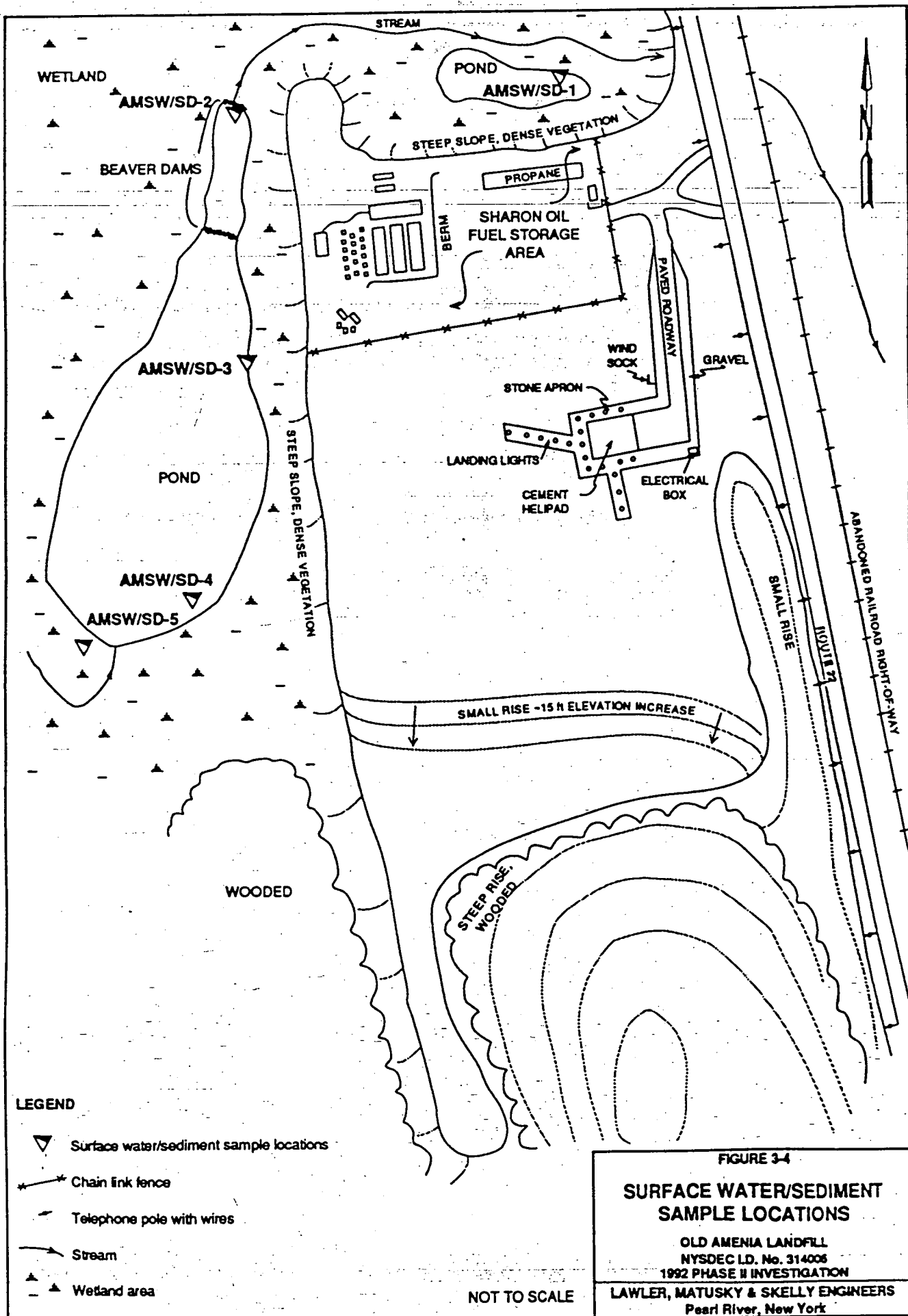
### 3.5.2 Surface Water/Sediment Sampling

An LMS crew sampled surface water and sediments according to NYSDEC protocols at five locations (Figure 3-4) between 20 and 23 November 1991 (Ref. 5). All locations were selected by LMS personnel according to work plan recommendations and were approved by a NYSDEC representative before sampling commenced. Surface water/sediment sample AMSW/AMSD-1 was collected from the stream in the wetland area that borders the landfill to the north. AMSW/AMSD-2 through -5 were collected from the pond that borders the landfill on the west.

Samples were submitted to Nytest Environmental Inc. of Port Washington, New York, for VOC, semivolatile organics, pesticides, PCBs, metals, cyanide, and conventional parameter analyses. In addition, samples were sent to Aquatec Inc. of Colchester, Vermont, for low-level PCB analyses. Surface water samples were collected directly into the sample containers or with Teflon dip buckets. Sediment samples were collected with stainless steel core tubes or with a petite ponar. Temperature, pH, and specific conductance were measured at each sampling location. The results of these field measurements are presented in Table 3-1.

Samples were collected in precleaned bottles/vials provided by Aquatec and Nytest. All sample containers were labeled with the site name, job number, sample I.D., date, time, and parameters for analysis. Preservatives were added in the field where appropriate. Sample containers were packed in ice chests maintained at 4°C and shipped via overnight courier to Nytest and Aquatec for analysis under chain-of-custody protocol.

Because of damage incurred during shipping, surface water samples AMSW-3, -4, and -5 had to be resampled on 23 November 1991 for the volatile organic, semivolatile organic, and



100025



TABLE 3-1

## FIELD MEASUREMENT DATA FOR SURFACE WATER SAMPLES

Old Amenia Landfill - NYSDEC I.D. No. 314006

| SURFACE WATER<br>I.D. | TEMPERATURE<br>(°C) | SPECIFIC CONDUCTANCE<br>(µmhos/cm @ 25°C) | pH UNITS |
|-----------------------|---------------------|---|----------|
| AMSW-1                | 8.1                 | 459                                       | 7.8      |
| AMSW-2                | 8.1                 | 408                                       | 8.0      |
| AMSW-3                | 8.3                 | 408                                       | 8.0      |
| AMSW-4                | 8.4                 | 425                                       | 8.4      |
| AMSW-5                | 8.4                 | 444                                       | 7.9      |

pesticide fractions. Identical sampling protocols were used to collect the second set of surface water samples, which were submitted to Nytest for analysis.

### 3.6 AIR MONITORING

During the site reconnaissance visit, an air monitoring program was conducted using an HNU photoionization detector (PID), an OVA flame ionization detector (FID), and an MSA combustible gas indicator (CGI) as discussed in the site inspection report (Ref. 2). Air monitoring, conducted in accordance with the NYSDEC-approved work plan, consisted of traverses of the site within the property boundaries. The survey objectives were to determine whether any previously unidentified sources of air contamination were present at the site and to confirm that the proposed level of personnel respiratory protection was appropriate.

Air monitoring was performed at ground level and within the breathing zone (4 to 5 ft above grade) (Ref. 2). This information was used to prepare the final site-specific health and safety plan (HASP) followed by LMS and subcontractor personnel during field investigation activities (Ref. 6). Based on site conditions, Level D personal protective equipment was specified for field activities. As a contingency safety measure, Level C equipment, including full-face, air-purifying respirators, was available at the site at all times.

## CHAPTER 4

### SITE ASSESSMENT

#### 4.1 SITE HISTORY

The Old Amenia Landfill site is an inactive municipal dump located on the west side of Route 22 in the Town of Amenia, Dutchess County, New York. Operation of the site as a dump began in the late 1940s. A Dutchess County Department of Health (DCDOH) inspection report dated 24 October 1947 identified the site as a municipal dump and noted unsatisfactory conditions. The property was owned at that time by William and Mary Murphy, who purchased a 22-acre site, which includes the 10-acre parcel under investigation, from Anna Kaplan Paley in May 1945.

During the Murphys' ownership of the land, the town rented the property and operated the dump. A 26 April 1963 DCDOH inspection report states that the dump was jointly operated by the highway departments of Amenia and the Town of Sharon (Connecticut); users of the site were listed as the Town of Sharon and the Sharon Hospital. Additional site users were listed in an October 1966 DCDOH inspection report as the Town of Amenia, residents of the Town of Sharon, Tri-Wall Corporation, and two unnamed commercial haulers.

Operation of the landfill continued until December 1968, when William Murphy sold the 22-acre site to Salvatore (Ben) Surico. At this time the Town of Amenia discontinued dumping at the site and opened an emergency disposal area immediately north of the site on property owned by Walt and Eleanor Culver. This area (not included in this Phase II investigation) was operated for approximately one year, starting in January 1969.

In late 1968 Mr. Surico applied to Dutchess County and the Town of Amenia for permits to operate a landfill on the former Murphy property. The county health commissioner granted permission for the site to be used for the disposal of refuse in January 1969; the town, however, refused. Later in the year the town was forced to grant the permit as the result of an Article 78 proceeding.

Mr. Surico operated the landfill from 1969 until approximately April 1971. The landfill permit allowed for the disposal of household refuse only. Gerald Wilcox, a local resident interviewed as part of the Phase II investigation, indicated that it was common knowledge in Amenia at that time that industrial wastes were present at the site (Ref. 1). An article in the *Harlem Valley Times* dated 25 June 1970 states that at a Town Board meeting a local resident asked whether industrial wastes were being dumped at the Amenia Landfill site (Ref. 7). A town supervisor responded that cutting oil was being handled at the site in an area enclosed by a 6-ft embankment. The cutting oil, from manufacturing plants in Connecticut and Massachusetts, was held at the landfill; after a full tankerload was collected, it was trucked to New Jersey for resale. No oil or waste products were reported to have been disposed of at the landfill; however, oil was routinely applied at the site to keep the dust down. The resident noted that oil had been seen floating in the adjacent stream and that there had been reports of odors.

A DCDOH internal memorandum dated July 1970 notes the presence of drummed industrial wastes at the site (Ref. 8). An inspection report dated 23 October 1970 reported the spillage and accumulation of liquid industrial wastes on the ground, and a letter was subsequently sent to Salvatore Surico by DCDOH requesting that this condition be rectified (Ref. 9). A 26 October 1970 DCDOH memorandum reported the presence of several hundred barrels of industrial wastes at the site; some had been punctured and were discharging chemicals to the ground surface (Ref. 10). The report states that no industrial waste was observed in or near the surface waters at the site. The DCDOH inspector noted the following names of companies and contents listed on the barrels:

- Remington Rand Electric Shaving Division  
60 Main Street  
Bridgeport, Connecticut  
Contents: Crystoton [Crystolon?]
- U.S. Polymeric  
Contents: P.F. Etchant - Ferris [ferrous] chloride
- ALRAC Division Radiation Research  
649 Howe Street (P.O. Box 2109)  
Stamford, Connecticut  
Contents: 2 Pyrrolidone [2-pyrrolidone]

- The Hubbard Hall Chemical Co.  
Waterbury, Connecticut  
Contents: Mineral Spirits

The inspection report also notes that the chemicals were reportedly pumped out of the barrels for shipment to New Jersey. Undamaged empty barrels were sold; damaged barrels were crushed and buried on-site.

An aerial photograph dated 12 April 1970 obtained from the Dutchess County Real Property Tax Office shows approximately 200 drums lined up in a bermed area of the site (Plate). According to Mr. Wilcox, the bermed area was located behind a small ridge that obscured any view of the drums from passersby on Route 22. Mr. Wilcox stated that it was believed that solvents were being dumped into a pit located at the rear of the site and that the wastes being disposed of at the Old Amenia Landfill were similar to those disposed of at the Sarney site (Ref. 11).

The Sarney Farm is a National Priorities List (NPL) site consisting of a 5-acre former landfill located on Benson Hill Road in the Town of Amenia, approximately 5 miles south of the Old Amenia Landfill site. A Phase II investigation of the Sarney site was completed in June 1985, and a Record of Decision was issued by EPA in September 1990. Buried drums containing liquid solvents were found at the Sarney site. Wastes reported to be disposed of on-site included 55-gal drums of ethylene dichloride, cleaning solvents, inks, acids, water-based glues, and machine oils. Contaminants identified in the soils at this site included high concentrations of toluene, 2-butanone, 2-methyl-2-pentanone, trichloroethene, bis(2-ethylhexyl) phthalate, di-n-butylphthalate, naphthalene, and 2-methyl-naphthalene. Groundwater contaminants detected included 1,2-dichloroethane, vinyl chloride, bis(2-ethylhexyl)phthalate, and trace amounts of other organic chemicals. No pesticides or PCBs were identified in any contaminated media at the Sarney site.

In April 1971 a nearby resident filed a complaint with NYSDEC concerning odors similar to the smell of old oil emanating from the Old Amenia Landfill (Ref. 12). However, a DCDOH memorandum dated 27 April 1971 reported that the industrial waste storage area at the landfill was being dismantled and that the barrels were being removed (Ref. 13). In June of

1971, Mr. Surico transferred the property to the Tri-Town Landfill Corporation (Tri-Town), of which he was president. In August of 1971, 2 acres of the total 22-acre dump site were sold by Tri-Town to Thomas C. Romano, Peter J. Brevi, and Archie Deane, Jr., all of Amenia. This 2-acre portion of the site, currently owned by Karl Saliter of Sharon, Connecticut, is used by Sharon Oil for fuel storage; several aboveground tanks are located in this area in a bermed and fenced area. Mr. Saliter and his wife are the owners of the Sharon Oil & Gas Company.

Mr. Saliter stated that in October 1982, when the fuel oil storage area on the northern portion of the site was being constructed, he encountered approximately 10 ft of garbage and fill material during excavation. He also observed, on the northern bank of the site, three or four drums leaking a substance he believed to be fuel oil (Ref. 14).

A November 1971 DCDOH inspection report for the landfill states that Mr. Surico was in bankruptcy and that the Town of Amenia had assumed responsibility for operating the landfill. The town continued to operate the landfill until it was officially closed on 16 April 1976, although the property was transferred several times during this period. In July 1972 the 20-acre site formerly owned by Tri-Town was sold to Alistair Martin by the bankruptcy court. The property was then transferred by Mr. Martin to his wife, Edith Park Martin, in September 1972, then to the Curtiss-Wright Corporation by Mrs. Martin in June 1973.

Throughout the remaining period of operation of the landfill by the Town of Amenia (1971 to 1976), numerous violations were documented by DCDOH inspectors, including uncovered refuse, rodents, blowing papers, improper landfilling techniques (e.g., improper slope on completed areas), and unauthorized burning. In May 1974 the Curtiss-Wright Corporation (then owner of the property) was cited by the county for allowing the Town of Amenia to operate the dump in violation of NYSDEC regulations. A DCDOH inspection report dated February 1972 indicated that a fire had occurred at the site as a result of dumping of chemicals from the Sharon Hospital (Ref. 15). In July, September, and October 1973 DCDOH inspections reported the presence of barrels of liquid wastes at the rear of the site. A February 1974 DCDOH report indicated that the barrels had reportedly been removed (Ref. 15).

The town ceased operation of the landfill in 1976 at about the time that the Harlem Valley Landfill opened 0.25 mile southwest of the site. Closure of the dump involved application of a soil cover of unknown depth to the main fill area by a local contractor hired by the Town of Amenia. Following closure, the property remained under the ownership of the Curtiss-Wright Corporation until December 1982, when it was transferred to Metal Improvements Co., a wholly owned subsidiary of Curtiss-Wright. The property was then sold to the current owner, John Segalla, of Amenia, in July 1986.

The landfill was listed with NYSDEC as a Reported Hazardous Waste Site in April 1980. A 13 November 1979 inspection revealed evidence of drums in the southwest corner of the site in an area with no vegetative growth. A NYSDEC internal memorandum dated 14 November 1985 stated that an unknown number of 55-gal drums were stored at the site at the time of the landfill's closure and that some of the drums were later removed. No drums were observed during the 1986 Phase I site investigation. A NYSDEC/NYSDOH inspection in September 1990 did not reveal any drums at the site.

EPA identified the landfill as a Potential Hazardous Waste Site in 1981 and conducted a site inspection and limited field investigation in February 1987. Groundwater, surface water, soil, and sediment samples were collected by NUS Corporation. The analytical results of this investigation are included in Appendix B (Ref. 4). Analysis of a soil sample from the west side of the landfill, approximately 6 ft from the end of the fence that surrounds the Sharon Oil tank storage area, detected a PCB (Aroclor 1248) concentration of 170 ppm. In addition, phthalate compounds were identified in several of the soil, surface water, and sediment samples. The 1986 Phase I investigation concluded that a Phase II investigation was needed to determine the existence and extent of hazardous waste contamination at the site.

#### 4.2 SITE TOPOGRAPHY

The Old Amenia Landfill site is approximately 10 acres in size. The former landfill area is well graded and relatively flat. The site is vegetated with grass and slopes to the north and west. The northern portion of the site is occupied by the Sharon Oil fuel storage enclosure.

The oil storage tanks are contained within a fenced, bermed area. A helipad in the center of the site is reached by a small paved road. Access to the site is unrestricted.

The site is adjacent to a wetland through which runs a permanent stream (an unnamed tributary of Wassaic Creek). The western and northern sides of the former landfill area are steeply sloped, dropping approximately 20 to 40 ft down to the wetland, and densely vegetated with bushes and trees. The southern portion of the site slopes gently upward to the top of a small rise, then climbs more steeply to the top of a densely wooded hill. A cleared access road (unpaved) runs from the top of the rise at the southern end of the site along the western edge of the wooded hill.

Two lakes upgradient (i.e., 20 ft higher in elevation) of the site are located approximately 1500 ft to the west. Both discharge to the permanent stream running through the wetland/pond area adjacent to the site. The nearest residence is approximately 1350 ft to the west. The nearest commercial building is about 2 miles northeast of the site. There are no national or state parks or forests within 2 miles.

#### 4.3 SITE HYDROGEOLOGY

The site is directly underlain by glacial outwash sand and gravel deposits that are confined to the valley floor and are of limited areal extent. Approximately 1 mile north of the site, the sediments are at least 70 ft thick and comprise 28 ft of water-bearing gravel overlain by 42 ft of clay with a gravel lens (Ref. 16). There are no site-specific data to confirm the presence of this thick clay, however. The unconsolidated deposits that blanket the adjacent hillsides are composed of glacial till.

The glacial sediments are underlain by marble bedrock of the Cambrian-Ordovician Age Stockbridge Formation. There are several thrust faults related to the Taconic Orogeny within 1 to 2 miles of the site. The bedrock is present at or within 3 ft of the ground surface at several locations throughout the valley, including the hills north and south of the site (Ref. 17).



Both the glacial sediments and marble bedrock (designated as Aquifer No. 74 in Ref. 17) have been developed for domestic (rural area) and public (Town of Amenia) water supplies and are considered to constitute the aquifer of concern. The glacial sediment portion of the aquifer includes the sand and gravel deposits that are bounded by the adjacent glacial till-covered mountains (Ref. 17). Based on the available literature, hydraulic connection between these two general aquifers cannot be confirmed. However, because bedrock is reportedly within 3 ft of the ground surface in the immediate vicinity of the site, both the bedrock aquifer and the glacial sediment aquifer may be affected by conditions at the site.

#### 4.4 PHASE II RESULTS

##### 4.4.1 Site Inspection

The results of the site inspection conducted on 9 October 1991 indicated that the vegetative cover over the main landfill area is well maintained (Ref. 2). Fill material, e.g., broken glass and rubber, was evident in only a few areas. A number of small bare spots were observed on the southern half of the site. Three slumped areas were seen along the western edge of the landfill and in the center of the site near the helipad. The vegetation adjacent to the Sharon Oil enclosure was stressed, and there was a small patch of standing water. Light leachate staining was noted on the soil in an area located in the southeastern corner of the site.

A small ditch on the western slope of the landfill near the end of the Sharon Oil enclosure fence contained exposed fill material, several rusted (empty) drums, a tire, and several brown bottles. A similar ditch with fill material and rubbish was also observed farther to the south on the western slope. An apparent scrap metal disposal area on the western slope near the beginning of the access road to the drum disposal area contained a topless empty drum; several other drums protruded from the ground. Other scrap metal, e.g., old appliances, was also piled in this area.

An apparent drum disposal area was located in the wooded area west of the access road near the southern end of the road. The ground surface in this area was hummocky, and 10 to 12 drums protruded from the ground. The drums did not appear to be crushed.

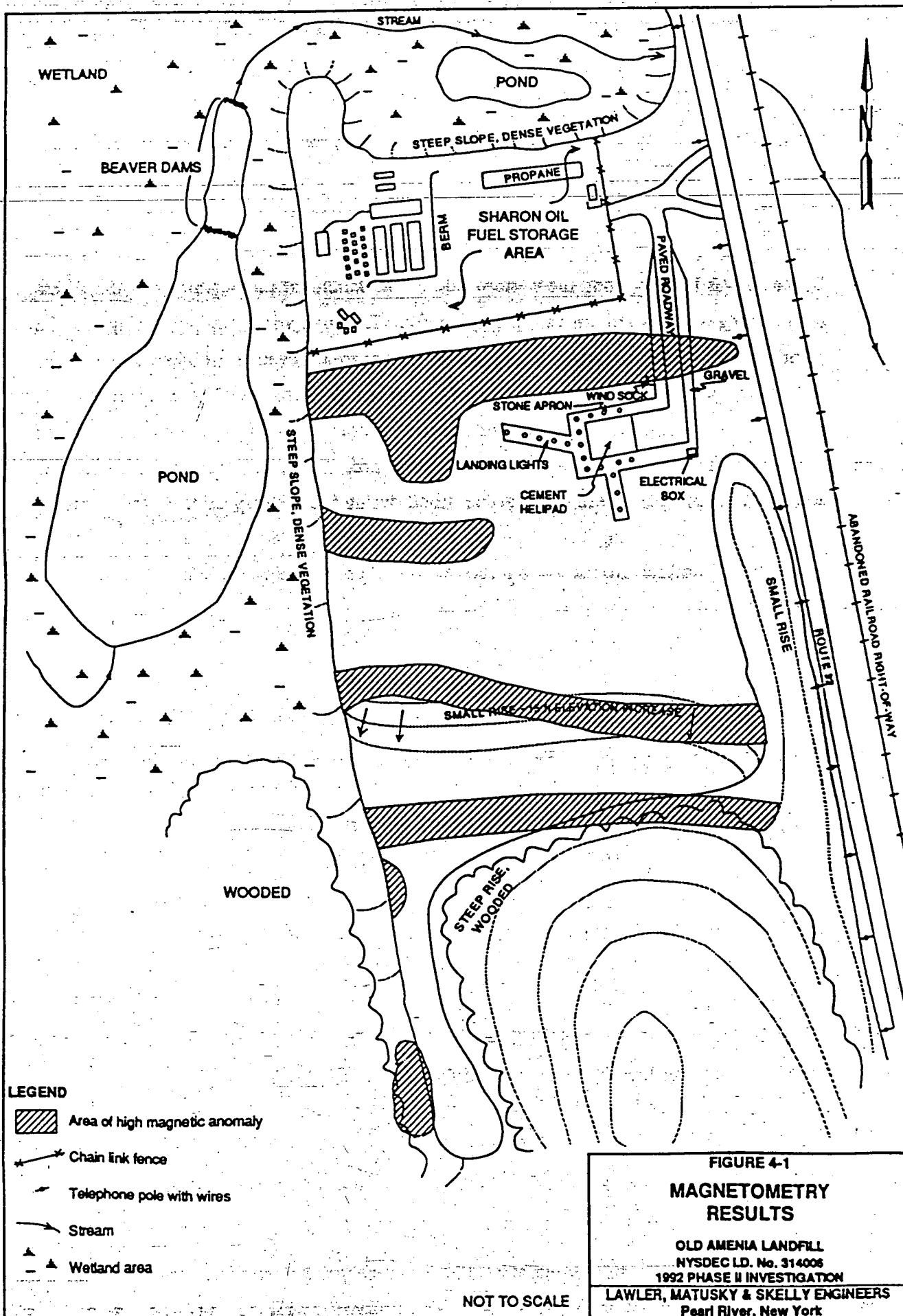
#### 4.4.2 Geophysics Data

The results of the magnetometry survey conducted at the site showed a varied pattern of magnetic signatures (Ref. 18). Two areas exhibited relatively stable magnetic patterns, indicating that the fill materials do not extend into these areas. The first area was located at the northwestern corner of the site, north of the Sharon Oil fuel storage enclosure; the second area, at the southern end of the landfill along the base of the tree-covered hill. Several outcrops were noted in this area and field measurements ranged between 53,000 and 55,000 gammas, indicating a relatively uniform subsurface material at this location. It is believed that the fill does not extend into or beyond this area.

Several zones within the confines of the landfill exhibited a pattern consisting of a low anomaly to the north with a corresponding high to the south (Figure 4-1). The most prominent zone, located between the Sharon Oil enclosure and the helipad, had a relatively high magnetic field strength trending in an east-west direction across the site. A large area protrudes to the south along this anomaly near the western side. Because no measurements were taken on the Sharon Oil property, no correspondingly low anomaly could be associated with this area. The fencing and reinforcing rods within the concrete of the helipad could cause these magnetic variations; however, the high intensity of the data indicates a nearly linear east-west pattern approximately 360 ft long and 30 to 40 ft wide. Features of this type are generally more indicative of larger-scale disturbances, such as trenches, pipelines, or other buried metallic masses.

A second anomaly oriented in an east-west direction was recorded at the grade change in the southern portion of the central site area. This appears to be a lift of fill or cover material with an approximate 15-ft difference in elevation. Corresponding high and low anomalies were found on either side of this sloped area. These anomalies trended in an east-west direction across the width of the site.

A third area with a characteristic pattern of opposing anomalies was found along the base of the tree-covered hill at the southern end of the site. Although the strength and variation of the magnetic readings are characteristic of a magnetic structure or object, it is believed that



this pattern indicates the beginning of the fill zone. As stated previously, a very stable magnetic area believed to be associated with the presence of bedrock in this area was identified immediately south of this zone.

Two smaller areas had more localized signatures, indicating the presence of magnetic material. One area was located along the western side of the landfill at the beginning of the access road leading to the southern end of the landfill. This area was identified during the site reconnaissance as the apparent scrap metal depository area. Several car bodies, empty tanks, and drums are exposed at the edge of the fill area in this location. The concentration of metallic material is believed to be localized, as the contour interval from the magnetic survey is very steep and drops rapidly a short distance eastward. The second area, located along the access road near its southern end, was identified during the site inspection as the apparent drum disposal area. A significant number of partially exposed 55-gal drums were contained in the soil. No drums protruded from the several other mounds in the soil in this area.

Vertical electrical soundings (VES) were taken at five locations across the surface of the landfill (Table 4-1). VES 1 and VES 5 were taken along the eastern side of the landfill. VES 1 was located along the south side of the helipad; VES 5 was taken 200 ft farther south atop the elevated area. The results indicated the presence of three identifiable layers of comparable thicknesses in each location. The first two layers consisted of fill less than 10 ft thick with a layer of soil in between. The third layer was between 13 and 15 ft thick at both of the sounding locations. The dramatic increase in the resistivity values at the two sounding locations (three to five orders of magnitude) is believed to be caused by the bedrock surface. Outcrops were noted near VES 5, indicating that bedrock may be found at shallow depths in this area.

Sounding locations VES 2 and VES 4 were located in the central and western portions, respectively, of the landfill area south of the Sharon Oil fuel storage enclosure. These locations also consisted of three layers. Resistivity values of the materials at each sounding location decreased with depth. The thickness of the first identified layer was between 2.7 and 5.8 ft, which may be indicative of dry fill material or areas where less moisture is present in the upper zones. The second layer was more extensive and showed a marked decrease in

TABLE 4-1

## GEOPHYSICAL RESULTS - VERTICAL ELECTRICAL SOUNDINGS

Old Amenia Landfill NYSDEC ID. No. 314006

| VES No. | LAYER       | THICKNESS (ft) | APPARENT RESISTIVITY (ohm-m) |
|---------|-------------|----------------|------------------------------|
| 1       | 1 (surface) | 6.1            | 8.12                         |
|         | 2           | 8.7            | 22.7                         |
|         | 3           | -              | $5.6 \times 10^3$            |
| 2       | 1 (surface) | 2.7            | 152                          |
|         | 2           | 22.8           | 18.4                         |
|         | 3           | -              | 8.9                          |
| 3       | 1 (surface) | 9.0            | 55.5                         |
|         | 2           | 11.3           | 48.7                         |
|         | 3           | -              | 15.2                         |
| 4       | 1 (surface) | 5.8            | 74.1                         |
|         | 2           | 38.0           | 17.8                         |
|         | 3           | -              | 28.6                         |
| 5       | 1 (surface) | 8.6            | 22.6                         |
|         | 2           | 4.4            | 7.5                          |
|         | 3           | -              | $1.81 \times 10^5$           |

resistivity at both locations. Thicknesses ranged between 22.8 and 38 ft for the second layer. This interval is believed to be composed of fill materials possibly moistened or saturated with conductive leachate. The third layer produced even lower resistivity values and had no identifiable maximum depth. There was nothing to distinguish the bottom of the fill area interface with unconsolidated materials or bedrock. The lower interval of the third layer, although difficult to determine, may be the lower limit of the fill materials at the site.

Although bedrock generally has greater resistivity (as encountered at sounding locations VES 1 and VES 5), the interface between fill and clay would be difficult to discern. Also, if unconsolidated materials beneath the fill are partially or fully saturated with low-conductivity leachate, resistivity values would decrease. The data indicate that this condition may exist at sounding locations VES 2 and VES 4.

VES 3 was located north of the Sharon Oil storage facility in the wooded peninsula area. Although the VES results indicated a three-layer system, the apparent resistivity measurements were similar for all layers. The upper layer was 9 ft thick and the second layer was 11.3 ft thick. The overall difference in resistivity between the two layers was less than 10 ohm-m. The decrease in resistivity may be a result of encountering unconsolidated materials with increasing moisture content.

#### 4.4.3 Soil Gas Data

Soil gas points were installed throughout the site from the peninsula north of the Sharon Oil fuel storage area to the southernmost portion of the site along the access road leading to the drum disposal area. The sampling procedures employed for the soil gas survey are described in Section 3.4. The survey results generally indicate that VOCs were present at varying concentrations in the soil gas at a number of locations (Ref. 3). Results of the survey are summarized in Table 4-2 and areas of identified volatile organic contamination are shown in Figure 4-2.

The greatest concentration of contaminants was detected in samples obtained from the northeastern sector of the site in the area between the helipad and the Sharon Oil enclosure.

10001

TABLE 4-2

## SOIL GAS DATA SUMMARY (NOVEMBER 1991)

Old Amenia Landfill

NYSDEC I.D. No. 314006

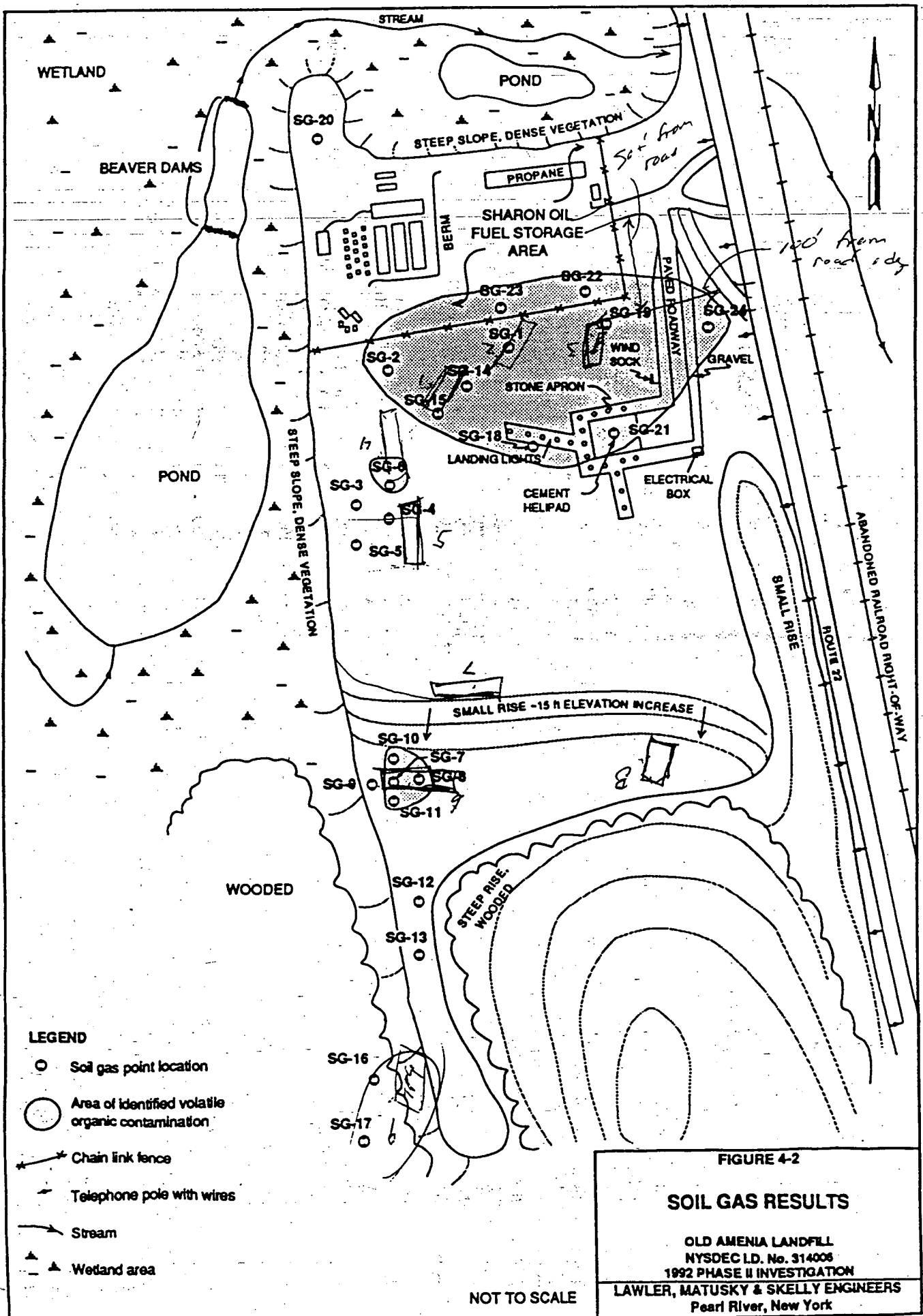
| PARAMETER                        | SG-1   | SG-2   | SG-3 | SG-4 | SG-5 | SG-6   | SG-7 | SG-8   | SG-9  | SG-10  | SG-11  | SG-12 |
|----------------------------------|--------|--------|------|------|------|--------|------|--------|-------|--------|--------|-------|
| <b>VOLATILE ORGANICS (µg/m³)</b> |        |        |      |      |      |        |      |        |       |        |        |       |
| Vinyl chloride                   | 8,400  | ND     | ND   | ND   | ND   | ND     | *    | 3,100  | ND    | ND     | ND     | ND    |
| Benzene                          | 1,500  | 4,800  | ND   | ND   | ND   | 300    | *    | 4,900  | ND    | 5,600  | 2,200  | ND    |
| PCE                              | 27,000 | 1,300  | ND   | ND   | ND   | ND     | *    | ND     | ND    | ND     | ND     | ND    |
| Toluene                          | BDL    | 33,000 | ND   | ND   | ND   | 1,400  | *    | 3,300  | 5,400 | 15,000 | 3,700  | 2,000 |
| Ethylbenzene                     | 20,000 | 12,000 | ND   | ND   | ND   | 6,700  | *    | 7,900  | ND    | 7,600  | 27,000 | ND    |
| m-Xylene                         | 71,000 | 18,000 | ND   | ND   | ND   | 11,000 | *    | 15,000 | ND    | 7,600  | 19,000 | ND    |
| o,p-Xylene                       | 41,000 | 15,000 | ND   | ND   | ND   | 7,600  | *    | 19,000 | ND    | 6,200  | 23,000 | ND    |
| Methylene chloride               | ND     | ND     | ND   | ND   | ND   | ND     | *    | ND     | ND    | ND     | ND     | ND    |
| 1,1,1-Trichloroethane            | ND     | ND     | ND   | ND   | ND   | ND     | *    | ND     | ND    | ND     | ND     | ND    |
| TCE                              | ND     | ND     | ND   | ND   | ND   | ND     | *    | ND     | ND    | ND     | ND     | ND    |
| cis/trans-1,2-Dichloroethe       | 1,000  | ND     | ND   | ND   | ND   | ND     | *    | ND     | ND    | ND     | ND     | ND    |

| PARAMETER                        | SG-13 | SG-14     | SG-15  | SG-16 | SG-17 | SG-18  | SG-19  | SG-20 | SG-21 | SG-22  | SG-23  | SG-24  |
|----------------------------------|-------|-----------|--------|-------|-------|--------|--------|-------|-------|--------|--------|--------|
| <b>VOLATILE ORGANICS (µg/m³)</b> |       |           |        |       |       |        |        |       |       |        |        |        |
| Vinyl chloride                   | ND    | 340,000   | 6,000  | ND    | ND    | 1,700  | 17,000 | ND    | 6,600 | 12,000 | 28,000 | 21,000 |
| Benzene                          | ND    | 38,000    | 9,700  | ND    | ND    | 8,900  | 33,000 | ND    | 700   | 4,200  | 30,000 | 2,300  |
| PCE                              | ND    | 79,000    | ND     | ND    | ND    | ND     | ND     | ND    | ND    | 13,000 | ND     | ND     |
| Toluene                          | 1,300 | 1,700,000 | 8,800  | 1,600 | 1,000 | 5,300  | 26,000 | 400   | 1,200 | 3,500  | 25,000 | 2,100  |
| Ethylbenzene                     | ND    | 560,000   | 11,000 | ND    | ND    | 46,000 | 21,000 | ND    | 2,600 | 16,000 | 35,000 | ND     |
| m-Xylene                         | ND    | 1,100,000 | 16,000 | ND    | ND    | 72,000 | 36,000 | ND    | 6,100 | 12,000 | 68,000 | ND     |
| o,p-Xylene                       | ND    | 730,000   | 17,000 | ND    | ND    | 55,000 | 42,000 | ND    | ND    | 20,000 | 46,000 | ND     |
| Methylene chloride               | ND    | 6,300     | ND     | ND    | ND    | ND     | ND     | ND    | ND    | ND     | ND     | ND     |
| 1,1,1-Trichloroethane            | ND    | 14,000    | ND     | ND    | ND    | ND     | ND     | ND    | ND    | ND     | ND     | ND     |
| TCE                              | ND    | 170,000   | ND     | ND    | ND    | ND     | ND     | ND    | ND    | ND     | ND     | ND     |
| cis/trans-1,2-Dichloroethe       | ND    | 440,000   | ND     | ND    | ND    | ND     | 67,000 | ND    | ND    | 8,500  | ND     | 2,500  |
| 1,1-Dichloroethene               | ND    | 3,400     | ND     | ND    | ND    | ND     | ND     | ND    | ND    | ND     | ND     | ND     |
| 1,1-Dichloroethane               | ND    | 5,700     | ND     | ND    | ND    | ND     | ND     | ND    | ND    | ND     | ND     | ND     |
| 2-Butanone                       | ND    | 1,100     | ND     | ND    | ND    | ND     | ND     | ND    | ND    | ND     | ND     | ND     |

\* - Not run, water encountered; no sample was obtained.  
 ND - Not detected at analytical detection limit (Ref. 3).  
 BD - Below detection limit

4-10A

100040



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Ten soil gas sampling points were installed in this area, which was approximately 100 to 150 ft in diameter. Soil gas samples collected from nine of these 10 locations contained vinyl chloride in concentrations ranging from 1700 to 340,000  $\mu\text{g}/\text{m}^3$ . Benzene, toluene, ethylbenzene, and xylene compounds (BTEX) were detected in nearly every sample from this area. Concentrations of the BTEX compounds varied between 300 and 1,700,000  $\mu\text{g}/\text{m}^3$ . Tetrachloroethylene (PCE) was identified in four closely grouped samples in this area, with concentrations of 1300 to 79,000  $\mu\text{g}/\text{m}^3$ . Methylene chloride, 1,1,1-trichloroethane, and trichloroethylene were identified at a single location in this area at concentrations of 6300, 14,000, and 170,000  $\mu\text{g}/\text{m}^3$ , respectively.

Five other areas on the property, primarily along the western side of the site, were also investigated. The first area is the peninsula north of the Sharon Oil enclosure, where only one point was installed (SG-20); 400  $\mu\text{g}/\text{m}^3$  of toluene was detected in the sample. As toluene is a common component of petroleum products, its presence in this area is most likely due to its proximity to the fuel storage tanks rather than to underlying VOC contamination. Samples SG-3 through -6 were grouped in an area on the western side of the site approximately halfway from the northern end. The ground surface in this area was characterized by a moderate depression that showed evidence of possible periods when standing water may have been present. Moderate concentrations of the BTEX compounds were detected in sample SG-6 only.

Five soil gas points were installed on top of the rise in the southwestern portion of the central site area. This location was marked by a very pronounced depression with definite signs of recent stagnant water. Sample point SG-7, installed at the bottom of the depression, contained water and therefore could not be sampled. Three of the remaining four points showed moderate concentrations of BTEX compounds. Sample SG-8 also contained 3100  $\mu\text{g}/\text{m}^3$  of vinyl chloride.

Two soil gas points were located in the scrap metal disposal area and at the drum burial location at the southern end of the site. Low concentrations of toluene were detected in all four of these samples. No other VOCs were present above the detection limits in these samples.

#### 4.4.4 Surface Soil Data - Mobile Laboratory

Twenty soil samples were collected at the locations shown on Figure 3-3 and analyzed for PCBs by Tetra-K Testing using the mobile laboratory. In addition, the 10 samples with the highest detected PCB concentrations were analyzed by the mobile laboratory for TCL VOCs. The chemical data obtained for these soil samples are summarized in Table 4-3 (Ref. 3).

**4.4.4.1 Volatile Organic Compounds.** Of the 10 surface soil samples analyzed at the site for VOCs, only one showed evidence of VOC contamination. Ethylbenzene was detected at a concentration of 0.22 mg/kg in sample SS-5. All other VOCs tested for in the analysis were below detection limits in this sample.

**4.4.4.2 PCBs.** PCBs were detected in 15 of the 20 surface soil samples collected at the site and analyzed by the mobile laboratory. Aroclor 1248 was the PCB identified in 13 of the samples; the remaining two samples contained Aroclor 1254. The PCB concentrations detected ranged from 2.3 to 250 ppm; only one sample contained a PCB concentration of greater than 50 ppm.

#### 4.4.5 Surface Soil Data - Fixed Laboratory

Surface soil samples for analysis in a fixed analytical laboratory were collected at the four locations shown on Figure 3-3. Sampling was conducted as described in Section 3.5.1. The chemical data for these samples are summarized in Table 4-4 and are discussed below (Ref. 19). The validation and usability assessment for all data from the fixed laboratory is discussed in the Data Usability Summary (Ref. 22) based on the Data Validation Report (Ref. 23).

**4.4.5.1 Volatile Organic Compounds.** The surface soil samples were analyzed using EPA Method 624. All samples collected contained low levels of methylene chloride; however, methylene chloride was also found in the associated method and trip blanks, indicating that it may have been the result of laboratory contamination rather than actual site contamination. 1,1,1-Trichloroethane was detected in only one sample (AMSS-20) at a level of 0.006 mg/kg.

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TABLE 4-3

**SURFACE SOIL FIELD DATA SUMMARY (NOVEMBER 1991)**  
 Old Amenla Landfill NYSDEC I.D. No. 314006

| PARAMETER                        | SS-1A | SS-1B | SS-2A | SS-2B | SS-3 | SS-4 | SS-5  | SS-6 | SS-7 | SS-8 |
|----------------------------------|-------|-------|-------|-------|------|------|-------|------|------|------|
| <b>VOLATILE ORGANICS (mg/kg)</b> |       |       |       |       |      |      |       |      |      |      |
| Ethylbenzene                     | ND    | NR    | ND    | ND    | NR   | ND   | 0.220 | ND   | NR   | NR   |
| <b>PCBs (mg/kg)</b>              |       |       |       |       |      |      |       |      |      |      |
| Aroclor 1248                     | 25    | ND    | 12    | 250   | ND   | 15   | 38    | 42   | 8.0  | 5.0  |
| Aroclor 1254                     | ND    | ND    | ND    | ND    | ND   | ND   | ND    | ND   | ND   | ND   |

| PARAMETER                        | SS-9A | SS-9B | SS-10 | SS-11A | SS-11B | SS-12 | SS-13 | SS-14 | SS-15 | SS-16 |
|----------------------------------|-------|-------|-------|--------|--------|-------|-------|-------|-------|-------|
| <b>VOLATILE ORGANICS (mg/kg)</b> |       |       |       |        |        |       |       |       |       |       |
| Ethylbenzene                     | ND    | NR    | ND    | NR     | NR     | NR    | NR    | NR    | ND    | ND    |
| <b>PCBs (mg/kg)</b>              |       |       |       |        |        |       |       |       |       |       |
| Aroclor 1248                     | 35    | 6.0   | 10    | 4.5    | ND     | ND    | ND    | ND    | 8.2   | 46    |
| Aroclor 1254                     | ND    | 4.2   | ND    | ND     | 2.3    | ND    | ND    | ND    | ND    | ND    |

ND - Not detected at analytical detection limit (Ref. 19).  
 NR - Not run.

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TABLE 4-4 (Page 1 of 5)

**SURFACE SOIL DATA SUMMARY (NOVEMBER 1991)**  
Old Amenla Landfill NYSDEC I.D. No. 314006

| PARAMETER                               | AMSS-17       | AMSS-18     | AMSS-19 | RE<br>AMSS-19 |
|---|---------------|-------------|---------|---------------|
| <b>VOLATILE ORGANICS (mg/kg)</b>        |               |             |         |               |
| Methylene chloride                      | 0.011 b       | 0.015 b     | 0.016 b | NR            |
| <b>Tentatively Identified Compounds</b> | ND            | ND          | ND      | NR            |
| <b>SEMIVOLATILE ORGANICS (mg/kg)</b>    |               |             |         |               |
| Benzolc acid                            | 0.027 j       | ND          | NU      | NU            |
| Di-n-butylphthalate                     | 0.370         | 0.140 j     | NU      | NU            |
| Butylbenzylphthalate                    | 0.010 j       | ND          | NU      | NU            |
| bis(2-Ethylhexyl)phthalate              | 0.100 j       | 0.260 j     | NU      | NU            |
| <b>Tentatively Identified Compounds</b> |               |             |         |               |
| Trichloro biphenyl isomer               | 3.740 (3) j   | 0.260 j     | NU      | NU            |
| Tetrachloro biphenyl isomer             | 13.440 (10) j | 0.200 j     | NU      | NU            |
| Pentachloro biphenyl isomer             | 6.910 (6) j   | 0.350 (2) j | NU      | NU            |
| Hexachloro biphenyl isomer              | 0.750 j       | ND          | NU      | NU            |
| Unknown                                 | ND            | 1.170 (3) j | NU      | NU            |
| Unknown + hexachloro biphenyl           | ND            | 0.180 j     | NU      | NU            |
| Unknown aromatic                        | ND            | ND          | NU      | NU            |
| Hexadecanoic acid                       | ND            | ND          | NU      | NU            |

( ) - Number of compounds in total.  
b - Found in associated blanks.  
j - Estimated concentration; compound present below quantitation limit.  
ND - Not detected at analytical detection limit (Ref. 19).

NR - Not run.  
NU - Not usable; see Appendix A for explanation.  
RE - Reextracted analysis.

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TABLE 4-4 (Page 2 of 5)

**SURFACE SOIL DATA SUMMARY (NOVEMBER 1991)**  
Old Amenia Landfill NYSDEC I.D. No. 314006

| PARAMETER                               | MS<br>AMSS-19 | MSD<br>AMSS-19 | AMSS-20     |
|---|---------------|----------------|-------------|
| <b>VOLATILE ORGANICS (mg/kg)</b>        |               |                |             |
| Methylene chloride                      | 0.019 b       | 0.019 b        | 0.019 b     |
| 1,1,1-Trichloroethane                   | 0.004 j       | 0.004 j        | 0.008 j     |
| <b>SEMIVOLATILE ORGANICS (mg/kg)</b>    |               |                |             |
| Benzoic acid                            | 0.018 j       | 0.028 j        | 0.054 b     |
| Di-n-butylphthalate                     | 0.240 j       | 0.280 j        | 0.160 j     |
| bis(2-Ethylhexyl)phthalate              | 0.041 j       | 0.050 j        | 4.100       |
| <b>Tentatively Identified Compounds</b> |               |                |             |
| Unknown                                 | NR            | NR             | 2.380 (7) j |
| Unknown aromatic                        | NR            | NR             | 1.040 (3) j |
| Unknown acid                            | NR            | NR             | 0.450 j     |
| Unknown alkane                          | NR            | NR             | 3.050 (4) j |

( ) - Number of compounds in total.  
b - Found in associated blanks.  
j - Estimated concentration; compound present  
below quantitation limit.

MS - Matrix spike.  
NR - Not run.  
MSD - Matrix spike duplicate.

350001

TABLE 4-4 (Page 3 of 5)

## SURFACE SOIL DATA SUMMARY (NOVEMBER 1991)

Old Amenla Landfill NYSDEC I.D. No. 314006

| PARAMETER               | AMSS-17  | AMSS-18 | AMSS-19 | MS      | MSD     | AMSS-20 |
|-------------------------|----------|---------|---------|---------|---------|---------|
|                         |          |         |         | AMSS-19 | AMSS-19 |         |
| PESTICIDES/PCBs (mg/kg) |          |         |         |         |         |         |
| gamma-BHC (lindane)     | ND       | ND      | ND      | 0.026   | 0.030   | ND      |
| Heptachlor              | ND       | ND      | ND      | 0.026   | 0.032   | ND      |
| Aldrin                  | ND       | ND      | ND      | 0.026   | 0.030   | ND      |
| Dieldrin                | ND       | ND      | ND      | 0.068   | 0.083   | ND      |
| Endrin                  | ND       | ND      | ND      | 0.064   | 0.077   | ND      |
| Endosulfan sulfate      | ND       | ND      | ND      | ND      | ND      | 0.170   |
| 4,4'-DDT                | ND       | ND      | ND      | 0.063   | 0.074   | ND      |
| Aroclor 1248            | 48.000 d | 4.600 d | 0.140   | ND      | ND      | 0.120   |

d - Concentration recovered from diluted sample (Ref. 19).  
ND - Not detected at analytical detection limit (Ref. 19).  
MS - Matrix spike.  
MSD - Matrix spike duplicate.

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TABLE 4-4 (Page 4 of 5)

## SURFACE SOIL DATA SUMMARY (NOVEMBER 1991)

Old Amenia Landfill NYSDEC I.D. No. 314006

| PARAMETER             | AMSS-17  | AMSS-18   | AMSS-19  | DUP<br>AMSS-19 | AMSS-20  | NATIVE SOIL<br>CONCENTRATIONS<br>TYPICAL RANGE (n) |
|-----------------------|----------|-----------|----------|----------------|----------|--|
| <b>METALS (mg/kg)</b> |          |           |          |                |          |  |
| Aluminum              | 11,200   | 13,400    | 17,900   | 17,051         | 23,100   | 10,000 - 300,000                                   |
| Antimony              | 9.1 B    | 11.8 B    | 15.5     | 13.3 B         | 19.1     | 0.6 - 10   |
| Arsenic               | 6.7 SA R | 5.8 SA R  | 8.3 SA R | 5.0 R          | 8.2 SA R | 1.0 - 40   |
| Barium                | 39.4 B   | 54.8      | 45.8     | 43.5 B         | 68.7     | 100 - 3,500  |
| Beryllium             | 0.58 B   | 0.45 B    | 0.45 B   | 0.58 B         | 1.0 B    | 0.1 - 40   |
| Cadmium               | ND       | ND        | ND       | ND             | ND       | 0.01 - 7.0   |
| Calcium               | 32,500   | 25,400    | 5,250    | 5,330          | 715 B    | 100 - 400,000                                      |
| Chromium              | 13.2     | 18.1      | 19.8     | 17.9           | 59.8     | 5.0 - 3,000  |
| Cobalt                | 16.5     | 19.2      | 23.4     | 20.8           | 18.9     | 1.0 - 40   |
| Copper                | 35.7 E   | 35.3 E    | 32.8 E   | 30.1           | 62.6 E   | 2.0 - 100  |
| Iron                  | 34,800   | 40,300    | 38,500   | 39,000         | 41,700   | 7,000 - 550,000                                    |
| Lead                  | 60.6     | 91.1      | 38.6     | 37.6           | 164      | 2.0 - 200  |
| Magnesium             | 18,700   | 20,400    | 12,700   | 11,400         | 8,400    | 800 - 6,000  |
| Manganese             | 971 R    | 1,210 R   | 1,300 R  | 1,000 R        | 950 R    | 100 - 4,000  |
| Mercury               | ND       | ND        | ND       | ND             | ND       | 0.01 - 0.08  |
| Nickel                | 41.8     | 33.9      | 39.3     | 40.3           | 41.8     | 5.0 - 1,000  |
| Potassium             | 1,380    | 1,250     | 2,070    | 2,010          | 1,270 B  | 400 - 30,000                                       |
| Selenium              | ND N W   | ND N W    | ND N W   | ND             | ND N     | 0.1 - 2.0  |
| Silver                | ND N     | ND N      | ND N     | ND             | ND N     | 0.1 - 5.0  |
| Sodium                | ND       | ND        | ND       | ND             | ND       | 750 - 7,500  |
| Thallium              | ND N W   | ND N W    | ND N W   | ND             | ND N W   | 0.1 - 0.8 (g)                                      |
| Vanadium              | 17.0     | 18.2      | 27.5     | 25.5           | 33.5     | 20 - 500   |
| Zinc                  | 137 E    | 204 E     | 93.7 E   | 86.7           | 119 E    | 10 - 300   |
| Cyanide               | 90.0 N d | 123.1 N d | 2.8 N    | 2.8            | 1.5 N    | -  |

- (n) - Ref. 20.  
 (q) - Ref. 21.  
 d - Concentration recovered from diluted sample (Ref. 19).  
 B - Value is less than the contract-required detection limit but greater than the instrument detection limit.  
 E - Indicates a high percent difference on serial dilution.  
 N - Spiked sample recovery is not within control limits.

- R - Duplicate analysis not within control limits.  
 W - Post-digestion spike out of control limits; sample absorbance is less than 50% of spike absorbance.  
 ND - Not detected at analytical detection limit (Ref. 19).  
 SA - Value determined by the method of standard addition.  
 DUP - Duplicate sample analysis.

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TABLE 4-4 (Page 5 of 5)

## SURFACE SOIL DATA SUMMARY (NOVEMBER 1991)

Old Amenla Landfill NYSDEC I.D. No. 314006

| PARAMETER                   | AMSS-17 | AMSS-18 | AMSS-19  | MS      | MSD      | AMSS-20 | HAZARDOUS<br>CRITERIA<br>AND EP TOX<br>STANDARDS |
|-----------------------------|---------|---------|----------|---------|----------|---------|--|
|                             |         |         |          | AMSS-19 | AMSS-19  |         |  |
| EP TOX ORGANICS (mg/l)      |         |         |          |         |          |         |  |
| Endrin                      | <0.01   | <0.01   | <0.01    | NR      | NR       | <0.01   | 0.02   |
| Lindane                     | <0.01   | <0.01   | <0.01    | NR      | NR       | <0.01   | 0.4  |
| Methoxychlor                | <1.0    | <1.0    | <1.0     | NR      | NR       | <1.0    | 10.0   |
| Toxaphene                   | <0.01   | <0.01   | <0.01    | NR      | NR       | <0.01   | 0.5  |
| 2,4-D                       | <1.0    | <1.0    | NU       | NR      | NR       | <1.0    | 10.0   |
| 2,4,5-TP3 (Silvex)          | <0.1    | <0.1    | NU       | NR      | NR       | <0.1    | 1.0  |
| EP TOX METALS (mg/l)        |         |         |          |         |          |         |  |
| Arsenic                     | ND      | ND      | ND       | NA      | ND       | ND      | 5.0  |
| Barium                      | 0.176B  | 0.218 B | 0.0664 B | NA      | 0.0664 B | 0.401 B | 100  |
| Cadmium                     | ND      | ND      | ND       | NA      | ND       | ND      | 1.0  |
| Chromium                    | ND      | ND      | ND       | NA      | ND       | ND      | 5.0  |
| Lead                        | 0.022 B | ND      | ND       | NA      | ND       | ND      | 5.0  |
| Mercury                     | ND      | ND      | ND       | NA      | ND       | ND      | 0.2  |
| Selenium                    | ND      | ND      | ND       | NA      | ND       | ND      | 1.0  |
| Silver                      | ND N    | ND N    | ND N     | NA      | ND N     | ND N    | 5.0  |
| HAZARDOUS CHARACTERISTICS   |         |         |          |         |          |         |  |
| Corrosivity (inches/year)   | <0.01   | <0.01   | <0.01    | NR      | NR       | <0.01   | 0.25+  |
| Flash point                 | >212    | >212    | >212     | NR      | NR       | >212    | -  |
| Reactivity to cyanide (ppm) | <1      | <1      | <1       | NR      | NR       | <1      | 250  |
| Reactivity to sulfide (ppm) | <1      | <1      | <1       | NR      | NR       | <1      | 500  |

+ - The rate of corrosivity of steel at 131°F as determined by the NACE test.  
 B - Value is less than the contract-required detection limit but greater than the instrument detection limit.  
 N - Spiked sample recovery is not within control limits.  
 MS - Matrix spike.

NA - Not applicable.  
 ND - Not detected at analytical detection limit (Ref. 19).  
 NR - Not run.  
 NU - Not usable; see Appendix A for explanation.  
 MSD - Matrix spike duplicate.

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which is below the contract-required quantitation limit (CRQL). No other TCL VOCs or tentatively identified compounds (TICs) were detected in the soil samples collected at the site.

**4.4.5.2 Semivolatile Organic Compounds.** Several phthalate acid ester (PAE) compounds were identified in the soil samples. Di-n-butylphthalate was detected in AMSS-17 at a concentration of 0.37 mg/kg. The concentrations of this compound in the other three samples collected were estimated at 0.14 to 0.28 mg/kg, below the CRQL. Butylbenzylphthalate, detected in only one sample (AMSS-17), was found at a concentration below the CRQL. All four soil samples contained detectable concentrations of bis(2-ethylhexyl)phthalate; however, only one sample (AMSS-20) had a concentration of bis(2-ethylhexyl)phthalate above the CRQL.

TICs were most prevalent in sample AMSS-17. This sample contained an estimated concentration of 13.44 mg/kg of tetrachloro-biphenyl isomers as well as estimated concentrations of trichloro- (3.740 mg/kg), pentachloro- (6.910 mg/kg), and hexachloro- (0.75 mg/kg) biphenyl isomer compounds. Sample AMSS-18 also contained concentrations of these chlorinated biphenyls below the CRQL, except for the hexachloro-biphenyl isomer, which was not detected. Several unknown semivolatile organics were present in three of the four soil samples (AMSS-18, -19, and -20) at levels below the CRQL. Sample AMSS-20 contained three unknown aromatic compounds at an estimated total concentration of 1.04 mg/kg as well as an unknown acid compound and four unknown alkane compounds at estimated concentrations of 0.45 and 3.05 mg/kg, respectively, all below the CRQL.

**4.4.5.3 Pesticides/PCBs.** No pesticides were identified in any of the soil samples from the site with the exception of 0.17 mg/kg of endosulfan sulfate in sample AMSS-20. Aroclor 1248 was detected in all four soil samples at concentrations ranging from 0.12 to 48.0 mg/kg. However, the Aroclor 1248 concentrations in samples AMSS-17 and -18 (48.0 and 4.6 mg/kg, respectively) were obtained from the analysis of samples that were diluted 50:1 and 10:1, respectively.

**4.4.5.4 EP Toxicity.** Extraction procedure (EP) toxicity analyses for both metals and organics were performed on all four soil samples. The results indicated that the EP toxicity

concentrations for all organics tested were below compound detection limits. For metals, none of the samples had concentrations above the maximum allowable levels, i.e., 100 times the drinking water standard for that particular metal. The only metals detected in the EP toxicity test were present below the contract-required detection limit; barium was identified in all four samples and lead was present in sample AMSS-17. Silver was not detected in any of the samples; however, the matrix spike (MS) sample recovery for silver was 56%, indicating that the results may be biased slightly low.

**4.4.5.5 Hazardous Characteristics.** In addition to the chemical analyses, analyses for hazardous characteristics, including corrosivity, ignitability, reactivity to cyanide, and reactivity to sulfide, were conducted on the samples. According to the tests, none of the samples exhibited hazardous characteristics. Corrosivity and reactivity to cyanide and sulfide were below measurable levels for all four samples. The flash point of each of the four samples was greater than 212°F.

**4.4.5.6 Metals.** Metals concentrations were compared with typical concentration ranges for native soils. Soil samples AMSS-18, -19, and -20 contained slightly elevated levels of antimony; the antimony concentration determined for sample AMSS-18 was below the contract-required detection limit. All four samples had elevated levels of magnesium, with concentrations ranging from 8400 mg/kg to 20,400 mg/kg. Typical native soil concentrations for magnesium range from 600 to 6000 mg/kg. All other metals detected were within the typical concentration ranges for native soils.

#### **4.4.6 Surface Water Data**

Five surface water samples were collected at the locations shown on Figure 3-3. All sampling locations and methods were discussed with and approved by NYSDEC personnel before sampling proceeded, as discussed in Section 3.5.2. The samples were analyzed for VOCs, semivolatile organics, pesticides, PCBs, metals, cyanide, and conventional parameters, which included pH, specific conductance, chemical oxygen demand (COD), total dissolved solids (TDS), and total suspended solids (TSS). Five additional surface water samples were collected at each sampling location and submitted to Aquatec for low-level PCB analyses.

Table 4-5 summarizes the chemical data for the surface water samples obtained from the Old Amenia Landfill site (Ref. 19). The surface water samples were collected from the pond and stream located in the wetland area adjacent to the site, which has been designated as a Class C surface water body by NYSDEC. The standards applicable to Class C surface water bodies are included in Table 4-5, and the analytical data obtained were compared with these standards.

**4.4.6.1 Volatile Organic Compounds.** Methylene chloride was detected at low levels, i.e., below the CRQL, in three of the water samples; it was also detected in an associated blank, however, and is therefore attributed to laboratory contamination. Acetone was identified in three of the samples and in the associated blanks. No TICs were detected.

**4.4.6.2 Semivolatile Organic Compounds.** The only TCL semivolatile organics identified in the surface water samples were n-nitrosodiphenylamine and bis(2-ethylhexyl)phthalate. The former was detected in three samples at levels below the CRQL; however, it was also detected in the method blank, indicating laboratory contamination. bis(2-Ethylhexyl)phthalate was detected in only one sample, at a concentration of 1 µg/l, which is below the CRQL. bis(2-Ethylhexyl)phthalate is a known laboratory contaminant and is not considered to be the result of environmental contamination at the site. Several unknown TICs were detected in samples AMSW-01, -03, and -05 at concentrations below the CRQL. However, the field blank associated with these samples also contained low levels (22.1 µg/l) of unknown TICs, indicating that they are not the result of environmental contamination at the site.

**4.4.6.3 Pesticides/PCBs.** No pesticides were detected in any of the surface water samples collected from the wetlands area adjacent to the site. PCBs were not detected in the samples analyzed by Nytest (detection limits of 0.5 µg/l for Aroclor 1254 and 1.0 µg/l for Aroclor 1260). Aquatec performed low-level PCB analyses of the surface water samples (detection limit is 0.05 µg/l for Aroclor 1242): a concentration of 0.06 µg/l was detected in sample AMSW-03; PCBs were not detected in the remainder of the samples.

**4.4.6.4 Metals.** Iron levels in all surface water samples except AMSW-04 exceeded the NYSDEC standard of 300 µg/l for Class C surface waters. Values ranged from 363 to 776

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TABLE 4-5 (Page 1 of 3)

**SURFACE WATER DATA SUMMARY (NOVEMBER 1991)**  
**Old Amenla Landfill NYSDEC I.D. No. 314006**

| PARAMETER                               | AMSW-01   | AMSW-02 | AMSW-03 | AMSW-04 | AMSW-05 | MS   | MSD  | FIELD     | TRIP  | NYSDEC SW CLASS C |           |
|---|-----------|---------|---------|---------|---------|------|------|-----------|-------|-------------------|-----------|
|   |           |         |         |         |         |      |      |           |       | STANDARDS (h)     |           |
|   |           |         |         |         |         |      |      | BLANK     | BLANK | AQUATIC           | HUMAN     |
| <b>VOLATILE ORGANICS (µg/l)</b>         |           |         |         |         |         |      |      |           |       |                   |           |
| Methylene chloride                      | ND        | 3 b]    | 26]     | ND      | 2 b]    | 4 b] | 6 b] | ND        | 2]    | NS                | NS        |
| Acetone                                 | 13 b      | 11 b    | ND      | ND      | 10 b    | 14 b | 22 b | ND        | ND    | NS                | NS        |
| <b>Tentatively Identified Compounds</b> | ND        | ND      | ND      | ND      | ND      | ND   | ND   | ND        | ND    |                   |           |
| <b>SEMIVOLATILE ORGANICS (µg/l)</b>     |           |         |         |         |         |      |      |           |       |                   |           |
| n-Nitrosodiphenylamine(¶)               | 2 b]      | 2 b]    | 2 b]    | ND      | ND      | ND   | ND   | ND        | NR    | NS                | NS        |
| bis(2-Ethylhexyl)phthalate              | ND        | 1]      | ND      | ND      | ND      | ND   | ND   | ND        | NR    | 0.6               | NS        |
| Benzo(b)fluoranthene                    | ND        | ND      | ND      | ND #    | ND #    | ND   | ND   | ND #      | NR    | NS                | NS        |
| Benzo(k)fluoranthene                    | ND        | ND      | ND      | ND #    | ND #    | ND   | ND   | ND #      | NR    | NS                | NS        |
| Benzo(a)pyrene                          | ND        | ND      | ND      | ND #    | ND #    | ND   | ND   | ND #      | NR    | 0.0012 GV         | NS        |
| Indeno(1,2,3-cd)pyrene                  | ND        | ND      | ND      | ND #    | ND #    | ND   | ND   | ND #      | NR    | NS                | NS        |
| Dibenz(a,h)anthracene                   | ND        | ND      | ND      | ND #    | ND #    | ND   | ND   | ND #      | NR    | NS                | NS        |
| Benzo(g,h,i)perylene                    | ND        | ND      | ND      | ND #    | ND #    | ND   | ND   | ND #      | NR    | NS                | NS        |
| <b>Tentatively Identified Compounds</b> |           |         |         |         |         |      |      |           |       |                   |           |
| Unknown                                 | 53.5 (2)] | ND      | 29 (2)] | ND      | 8.5]    | NR   | NR   | 22.1 (2)] | NR    |                   |           |
| <b>PESTICIDES/PCBs* (µg/l)</b>          | ND        | ND      | ND      | ND      | ND      | ND   | ND   | ND        | NR    |                   |           |
| <b>CONVENTIONALS</b>                    |           |         |         |         |         |      |      |           |       |                   |           |
| pH (standard units)                     | 7.62      | 7.71    | 7.67    | 7.78    | 7.71    | NR   | NR   | NR        | NR    | 6.5 - 8.5         | 6.5 - 8.5 |
| Specific conductance (µmhos/cm)         | 420       | 403     | 391     | 377     | 396     | NR   | NR   | NR        | NR    | NS                | NS        |
| Chemical oxygen demand (mg/l)           | 17*       | 73      | <3      | 17*     | 17*     | NR   | NR   | NR        | NR    | NS                | NS        |
| Total dissolved solids (mg/l)           | 243       | 255     | 235     | 271     | 250     | NR   | NR   | NR        | NR    | NS                | NS        |
| Total suspended solids (mg/l)           | 5         | 9       | 17      | 5       | 4       | NR   | NR   | NR        | NR    | NS                | NS        |

- # - Concentrations may exceed detection level; see Appendix A for complete discussion.
- \* - COD values should be considered estimates (biased high) as the absorbances for these values correlate with the 10 ppm standard.
- (¶) - Cannot be separated from diphenylamine.
- ( ) - Number of compounds in total.
- (h) - Hardness: 215 mg equivalent CaCO<sub>3</sub>/l.
- 1 - Nyltest's analytical detection limits for PCB were 0.5 and 1.0 µg/l (Aroclors 1254 and 1260, respectively).

- b - Found in associated blanks.
- ] - Estimated concentration; compound present below quantitation limit.
- MS - Matrix spike.
- ND - Not detected at analytical detection limit (Ref. 19).
- NR - Not run.
- NS - No standard.
- GV - Guidance value.
- MSD - Matrix spike duplicate.

415A1

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TABLE 4-5 (Page 2 of 3)

**SURFACE WATER DATA SUMMARY (NOVEMBER 1991)**  
 Old Amenla Landfill NYSDEC I.D. No. 314006

| PARAMETER            | AMSW-01 | AMSW-02 | AMSW-03 | AMSW-04 | AMSW-05 | DUP<br>AMSW-06 | FIELD<br>BLANK | NYSDEC SW CLASS C<br>STANDARDS (h) |
|----------------------|---------|---------|---------|---------|---------|----------------|----------------|------------------------------------|
| <b>METALS (µg/l)</b> |         |         |         |         |         |                |                |                                    |
| Aluminum             | 78.2 B  | 86.2 B  | 57.4 B  | ND      | ND      | 45.8 B         | ND             | 100(i)                             |
| Antimony             | ND      | ND      | ND      | ND      | ND      | ND             | ND             | NS                                 |
| Arsenic              | ND W    | ND      | ND      | ND      | ND      | ND             | ND             | 190                                |
| Barium               | ND      | ND      | ND      | ND      | ND      | ND             | ND             | NS                                 |
| Beryllium            | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 1100                               |
| Cadmium              | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 2.07                               |
| Calcium              | 54,100  | 53,400  | 53,000  | 52,800  | 53,200  | 53,800         | ND             | NS                                 |
| Chromium             | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 387                                |
| Cobalt               | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 5.0                                |
| Copper               | ND      | ND      | 2.8 B   | ND      | 2.8 B   | ND             | ND             | 22.7                               |
| Iron                 | 776     | 503     | 363     | 290     | 400     | 409            | ND             | 300                                |
| Lead                 | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 8.48                               |
| Magnesium            | 20,100  | 19,900  | 19,800  | 19,700  | 19,700  | 20,000         | ND             | NS                                 |
| Manganese            | 134     | 86.7    | 101     | 62.7    | 81.2    | 81.6           | ND             | NS                                 |
| Mercury              | 0.26    | ND      | ND      | ND      | ND      | ND             | ND             | 0.20 GV                            |
| Nickel               | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 171                                |
| Potassium            | 3,180 B | 3,140 B | 3,290 B | 2,650 B | 2,570 B | 2,530 B        | ND             | NS                                 |
| Selenium             | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 1.0                                |
| Silver               | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 0.1 (i)                            |
| Sodium               | 5,780   | 5,250   | 5,190   | 4,910 B | 5,060   | 5,030          | ND             | NS                                 |
| Thallium             | ND W    | ND W    | ND W    | ND W    | ND W    | ND             | ND             | 8.0                                |
| Vanadium             | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 14                                 |
| Zinc                 | 4.5 B   | 8.4 B   | ND      | ND      | ND      | ND             | ND             | 30                                 |
| Cyanide              | ND      | ND      | ND      | ND      | ND      | ND             | ND             | 5.2 (f)                            |

- (f) - Free cyanide, sum of HCN + CN<sup>-</sup>.  
 (h) - Hardness: 215 mg equivalent CaCO<sub>3</sub>.  
 (i) - Ionic.  
 B - Value is less than the contract-required detection limit but greater than the instrument detection limit.

- W - Post-digestion spike out of control limits; sample absorbance is less than 50% of spike absorbance.  
 GV - Guidance value.  
 ND - Not detected at analytical detection limit (Ref. 19).  
 NS - No standard.  
 DUP - Duplicate sample analysis.

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100054

TABLE 4-5 (Page 3 of 3)

**SURFACE WATER DATA SUMMARY (NOVEMBER 1991)****AQUATEC DATA RESULTS**

Old Amenla Landfill NYSDEC I.D. No. 314006

| PARAMETER  | AMSW-01 | AMSW-02 | AMSW-03 | AMSW-04 | AMSW-05 | MS      | MSD     | NYSDEC SW CLASS C<br>STANDARDS (h) |       |
|--|---------|---------|---------|---------|---------|---------|---------|------------------------------------|-------|
|  |         |         |         |         |         | AMSW-05 | AMSW-05 | AQUATIC                            | HUMAN |
| <b>LOW-LEVEL PCBs (<math>\mu\text{g/l}</math>)</b> |         |         |         |         |         |         |         |                                    |       |
| Aroclor 1242                                       | ND      | ND      | 0.060   | ND      | ND      | ND      | ND      | 0.001                              | NS    |

(h) - Hardness: 215 mg equivalent  $\text{CaCO}_3/\text{l}$ .

MS - Matrix spike.

ND - Not detected at analytical detection limit (Aquatec's low-level PCB analytical detection limit was  $0.05 \mu\text{g/l}$ ).

NS - No standard.

MSD - Matrix spike duplicate.

µg/l. No other metals were detected in the surface water samples at levels that exceeded the applicable NYSDEC standards.

#### 4.4.7 Sediment Data

Sediment samples were collected at locations corresponding to each of the five surface water samples (Figure 3-4). These samples were analyzed for VOCs, semivolatile organics, metals, cyanide, pesticides, and PCBs. Table 4-6 summarizes the analytical data obtained for the sediment samples (Ref. 19).

**4.4.7.1 Volatile Organic Compounds.** Methylene chloride was found at low concentrations in all of the sediment samples collected. However, as it was also detected in the trip and method blanks associated with these samples, this compound was most likely introduced through laboratory contamination and is not related to site contamination. Acetone was identified in one sample, SD-05, at a concentration of 0.15 mg/kg. Although this compound was not detected in the field, trip, or method blanks, its presence is probably due to laboratory contamination as acetone is a common laboratory contaminant. There were no TICs detected in any of the sediment samples.

**4.4.7.2 Semivolatile Organic Compounds.** Nitrobenzene was detected in only one sample, SD-03, at a concentration of 4500 mg/kg. Although semivolatile organic compounds were not detected in any of the other sediment samples, actual concentrations of several semivolatile compounds may be biased low due to poor (low) internal standard recoveries for these compounds. Low levels of these contaminants may have been present in the samples analyzed, but none were detected.

All five sediment samples contained low levels (below the CRQL) of unknown TICs; however, several of these compounds are suspected aldol condensation products. Thus, the source of these compounds is most likely laboratory contamination rather than actual site contamination. The only other TICs detected were found in sample SD-03, which had 2.0 mg/kg of a chloro-biphenyl isomer and 7.4 mg/kg of two dichloro-biphenyl isomers.

TABLE 4-6 (Page 1 of 2)

## SEDIMENT DATA SUMMARY (NOVEMBER 1991)

Old Amenla Landfill NYSDEC I.D. No. 314006

| PARAMETER                               | SD-01    | SD-02      | SD-03     | SD-04      | SD-05      | MS<br>SD-05 | MSD<br>SD-05 |
|---|----------|------------|-----------|------------|------------|-------------|--------------|
| <b>VOLATILE ORGANICS (mg/kg)</b>        |          |            |           |            |            |             |              |
| Methylene chloride                      | 0.029 b  | 0.051 b    | 0.022 b   | 0.089 b    | 0.028 b    | 0.034 b     | 0.028 b      |
| Acetone                                 | ND       | ND         | ND        | ND         | 0.150      | 0.200       | 0.120        |
| Tentatively Identified Compo            | ND       | ND         | ND        | ND         | ND         | NR          | NR           |
| <b>SEMIVOLATILE ORGANICS (mg/kg)</b>    |          |            |           |            |            |             |              |
| Nitrobenzene                            | ND       | ND         | 4,500     | ND         | ND         | ND          | ND           |
| Benzo(b)fluoranthene                    | ND #     | ND #       | ND #      | ND #       | ND #       | ND #        | ND #         |
| Benzo(k)fluoranthene                    | ND #     | ND #       | ND #      | ND #       | ND #       | ND #        | ND #         |
| Benzo(a)pyrene                          | ND #     | ND #       | ND #      | ND #       | ND #       | ND #        | ND #         |
| Indeno(1,2,3-cd)pyrene                  | ND #     | ND #       | ND #      | ND #       | ND #       | ND #        | ND #         |
| Dibenz(a,h)anthracene                   | ND #     | ND #       | ND #      | ND #       | ND #       | ND #        | ND #         |
| Benzo(g,h,i)perylene                    | ND #     | ND #       | ND #      | ND #       | ND #       | ND #        | ND #         |
| <b>Tentatively Identified Compounds</b> |          |            |           |            |            |             |              |
| Unknown                                 | 54.0 j a | 92.0 j a   | 32.0 j a  | 150 j a    | 50.0 j a   | NR          | NR           |
| Unknown                                 | 9.4 j    | 54.0 (2) j | ND        | 9.40 (2) j | 3.20 (2) j | NR          | NR           |
| Chloro-biphenyl isomer                  | ND       | ND         | 2.0 j     | ND         | ND         | NR          | NR           |
| Dichloro-biphenyl isomer                | ND       | ND         | 7.4 (2) j | ND         | ND         | NR          | NR           |
| <b>PESTICIDES/PCBs (mg/kg)</b>          |          |            |           |            |            |             |              |
| Aroclor 1232                            | ND       | ND         | 18.0      | ND         | ND         | ND          | ND           |
| Aroclor 1248                            | 0.510    | 1.80       | 5.20      | ND         | ND         | ND          | ND           |

- # - Concentrations may exceed detection level; see Appendix A for complete discussion.  
 ( ) - Number of compounds in total.  
 a - Suspected aldol condensation product.  
 b - Found in associated blanks.  
 j - Estimated concentration; compound present below quantitation limit.

- MS - Matrix spike.  
 ND - Not detected at analytical detection limit (Ref. 19).  
 NR - Not run.  
 MSD - Matrix spike duplicate.

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TABLE 4-6 (Page 2 of 2)

**SEDIMENT DATA SUMMARY (NOVEMBER 1991)**  
 Old Amenia Landfill NYSDEC I.D. No. 314006

| PARAMETER             | SD-01    | SD-02    | SD-03   | SD-04     | SD-05    | DUP<br>SD-05 |
|-----------------------|----------|----------|---------|-----------|----------|--------------|
| <b>METALS (mg/kg)</b> |          |          |         |           |          |              |
| Aluminum              | 10,800   | 22,600   | 10,900  | 17,600    | 9,810    | 9,050        |
| Antimony              | 48.4     | 24.5 B   | 22.3    | 60.3 B    | 25.7 B   | 21.1 B       |
| Arsenic               | 8.4 N SA | 8.2 N SA | 5.3 N   | 16.7 N SA | 4.7 N SA | 6.4          |
| Barium                | 74.8 B   | 118 B    | 44.3 B  | 105 B     | 51.3 B   | 47.5 B       |
| Beryllium             | 3.6      | 2.2 B    | 0.60 B  | ND        | 0.91 B   | 0.91 B       |
| Cadmium               | ND       | ND       | 3.8     | ND        | ND       | ND           |
| Calcium               | 5,410    | 20,100   | 37,200  | 25,800    | 6,660    | 6,470        |
| Chromium              | 9.7      | 25.8     | 15.7    | 25.9      | 13.4     | 11.1         |
| Cobalt                | 64.3     | 38.5     | 17.7    | 43.4 B    | 28.9     | 27.5         |
| Copper                | ND       | 28.5     | 40.2    | 32.8 B    | 9.8 B    | 6.4 B        |
| Iron                  | 128,000  | 79,500   | 37,800  | 60,600    | 51,400   | 55,100       |
| Lead                  | 23.4 SA  | 49.8 SA  | 71.4    | 70.8 SA   | 19.1 SA  | 22.8         |
| Magnesium             | 6,610    | 9,930    | 21,000  | 8,900     | 5,280    | 4,803        |
| Manganese             | 2,890 R  | 1,170 R  | 692 R   | 969 R     | 1,320 R  | 973 R        |
| Mercury               | ND N     | ND N     | ND N    | 5.4 N     | 1.3 N    | 1.4          |
| Nickel                | 144      | 88.5     | 43.8    | 81.8      | 53.5     | 62.5         |
| Potassium             | 1,640 B  | 2,280 B  | 1,180 B | 2,890 B   | 1,260 B  | 1,121 B      |
| Selenium              | ND       | ND       | ND W    | ND W      | ND W     | ND           |
| Silver                | ND       | ND       | ND      | ND        | ND       | ND           |
| Sodium                | ND       | ND       | ND      | ND        | ND       | ND           |
| Thallium              | ND W     | ND W     | ND W    | ND        | ND W     | ND           |
| Vanadium              | 17.3 B   | 38.4     | 17.8    | 32.0 B    | 15.8 B   | 13.8 B       |
| Zinc                  | 347      | 284      | 253     | 245       | 142      | 145          |
| Cyanide               | ND N     | ND N     | ND N    | ND N      | ND N     | ND N         |

B - Value is less than the contract-required detection limit but greater than the instrument detection limit.  
 N - Spiked sample recovery is not within control limits.  
 R - Duplicate analysis not within control limits.  
 W - Post-digestion spike out of control limits; sample absorbance is less than 50% of spike absorbance.

ND - Not detected at analytical detection limit (Ref. 19).  
 SA - Value determined by the method of standard addition.  
 DUP - Duplicate sample analysis.

**4.4.7.3 Pesticides/PCBs.** Aroclor 1248 was detected in sediment samples SD-01, -02, and -03 at concentrations of 0.51, 1.8, and 5.2 mg/kg, respectively. In addition, Aroclor 1232 was identified in sample SD-03 at a concentration of 18.0 mg/kg. No other pesticides or PCBs were detected in the sediment samples.

**4.4.7.4 Metals.** A number of metals were detected in the sediment samples collected at the site. Native concentration ranges for metals in sediments are not available, and no standards applicable to sediments are currently available. Aluminum was present in all sediment samples at levels ranging from 9810 to 22,600 mg/kg. Antimony was detected from below the contract-required detection limit to 48.4 mg/kg. Arsenic was detected at concentrations of 4.7 to 16.7 mg/kg; however, the spiked sample recovery for these samples was not within control limits, indicating that these levels are estimated concentrations. A concentration of 3.6 mg/kg of beryllium was detected in sample SD-01; all other samples had beryllium concentrations lower than the contract-required detection limit. Only sample SD-03 contained cadmium, at a concentration of 3.8 mg/kg. Calcium was detected in the five samples at concentrations ranging from 5410 to 37,200 mg/kg. Chromium concentrations ranged from 9.7 to 25.9 mg/kg. Cobalt was present at levels from below the contract-required detection limit to 64.3 mg/kg.

Copper was detected in samples SD-02 and -03 at concentrations greater than the contract-required detection limit: 28.5 and 40.2 mg/kg, respectively. The iron levels in the sediment samples ranged from 37,800 to 128,000 mg/kg. Lead was also present in all five samples, at levels from 19.1 to 71.4 mg/kg. Manganese concentrations ranged from 692 to 2890 mg/kg. Mercury was detected in samples SD-04 and -05; however, the spiked sample recovery for these samples was not within control limits. All sediment samples contained nickel, at concentrations ranging from 43.8 to 144 mg/kg. Vanadium was present at concentrations above the contract-required detection limit in samples SD-02 and -03 only, with concentrations of 38.4 and 17.8 mg/kg, respectively. Zinc was present in all five samples at levels ranging from 142 to 347 mg/kg.

All other metals were present at levels below the contract-required detection limit or the instrument detection limit.

## 4.5 CONCLUSIONS

### 4.5.1 Geophysics Survey

Several conclusions may be drawn from the results of the magnetometry and electrical resistivity studies conducted at the site. The former landfill area appears to be located in the central portion of the site, excluding the peninsula north of the Sharon Oil fuel storage enclosure and the access road leading to the drum disposal area at the southern end of the site. The landfill contains a substantial amount of fill material that is magnetic. Materials located at depth within the former landfill area may consist of refuse, unconsolidated deposits saturated with lower conductive leachate, or unsaturated clay. Depth to groundwater may be greater than the level of the adjacent wetlands area; this would increase the conductivity, as was apparent in layer 3 of sounding location VES 4.

Several areas of the site exhibited magnetic field patterns indicative of large concentrations of buried metallic materials (Figure 4-1). As the information collected provides no depth or size correlation for these areas, it is difficult to identify those locations that may contain the largest amount of buried material. One magnetic anomaly spanned the site in a relatively wide swath between the helipad and the Sharon Oil enclosure, indicating that a relatively large amount of buried materials may be present in this area.

According to the geophysics survey results, bedrock is relatively shallow at the southwestern end of the site - approximately 15 ft below grade - and along the eastern portion of the landfill.

### 4.5.2 Soil Gas Survey

The soil gas survey located three areas with substantial VOC contamination, as shown on Figure 4-2. When evaluated in conjunction with the geophysics survey data, the areas of identified VOC contamination appear to correlate well with the locations of suspect magnetic anomalies. Comparison of the geophysics and soil gas data indicates the presence of a

possible drum burial zone in the central site area between the helipad and the Sharon Oil enclosure, extending across the width of the site.

The existence of this zone is supported by aerial photographs of the site taken in April 1970 and April 1990 (Plate). The photos show the landfill as it appeared during the period of suspected industrial waste dumping and as it is now. In the earlier photo most of the site has been filled to approximately the present grade level, with the exception of a large area in the vicinity of the current Sharon Oil property. This portion of the site appears to be the active landfill area at the time. A comparison of shadows on the photo at the edge of the fill area with shadows of vehicles present at the site indicates that the face is approximately 10 to 20 ft high. Immediately south of the steep grade and active landfill area is a bermed area approximately 150 by 250 ft that appears to contain large quantities of organized, stacked drums. If in fact some or all of these drums were disposed of on-site, the most likely area would be in the active landfill portion apparent in the aerial photo, as the other portions of the site had already been brought to approximately the current grade level. The geophysics survey indicates that this area is the location of a very prominent magnetic anomaly. In addition, results of the soil gas survey have identified this portion of the site as an area of high VOC concentrations. Consequently, this location should be the focus of future site investigations, such as test pits or subsurface sampling.

#### 4.5.3 Surface Soils

Results of the mobile laboratory analyses conducted on the 20 surface soil samples confirm the presence of PCB contamination at the site. Fifteen of the 20 samples contained detectable concentrations of PCBs, with concentrations ranging from 2.3 to 250 mg/kg, substantially above the PCB standard of 50 ppm for toxic wastes as defined by the Toxic Substances Control Act (TSCA). The 250-ppm concentration was detected in sample SS-2B collected from the northwestern side of the site near the end of the Sharon Oil enclosure fence. This is near the location of a 1987 NUS Corporation sample that contained an Aroclor 1248 concentration of 170 ppm. Two other samples taken from the western bank of the landfill in this vicinity, SS-6 and -16, had PCB concentrations of 42 and 46 mg/kg, respectively. The remainder of the samples showing PCB contamination were collected on

the northern and central portions of the western bank of the site, with concentrations below 50 mg/kg. Results from samples analyzed by the mobile laboratory indicated that the PCB contamination did not appear to extend to the southern portion of the site along the access road leading to the drum disposal area.

The soil samples analyzed in the fixed laboratory did detect low levels of PCBs in the southern portion of the site. Sample AMSS-20, collected from the drum disposal area at the southwestern end of the access road, had 0.12 mg/kg of PCBs; sample AMSS-19, collected at the top of the rise in the southwestern portion of the central site area, contained 0.14 mg/kg. The other two soil samples collected for analysis in the fixed laboratory showed higher PCB concentrations. These samples were collected along the western bank of the site in the central and northern sections. The highest concentration detected by the fixed analytical laboratory was 48 mg/kg for sample AMSS-17, which was collected at the western end of the Sharon Oil enclosure fence in the area of the high PCB concentrations detected by the mobile laboratory.

Although these results confirm the presence of PCB contamination at the site, its extent and depth have not been defined. The range of PCB concentrations (5-250 ppm) detected and the widespread nature of the contamination indicate that it is most likely from PCB-contaminated oils spilled or disposed of at the site rather than from disposal of pure PCB product. Results of the literature search indicate that large quantities of what was reported to be cutting oil were handled at the site. The majority of the soil samples showing PCB contamination were collected along the western slope of the landfill; however, PCB contamination may exist in other areas of the site as well. In addition, all samples collected were surface soil samples from the first 6 in. of soil. Substantial PCB contamination may exist at greater depths.

Surface soil samples collected at the site did not show detectable levels of VOC contamination; however, the soil gas survey found moderate to high levels of VOCs present in the soil gas. These results may be explained by the high mobility of VOCs in soils. Volatile constituents in the surface soils are likely to have volatilized into the atmosphere or migrated to subsurface soils or groundwater. Thus, soil borings and/or groundwater

monitoring would be required to locate the source of the VOCs. The relatively high levels of VOCs detected in the soil gas indicate the likelihood of a substantial source of subsurface contamination.

#### 4.5.4 Surface Water/Sediment

Substantial volatile and semivolatile organic contamination was not detected in the surface water/sediment samples collected from the wetlands area adjacent to the site. Pesticide and metals contamination also did not appear to be significant in the surface water and sediments. PCBs, however, were detected in three of the sediment samples and in one surface water sample, indicating that PCBs are migrating from the site to the adjacent wetlands and have entered the surface water. Thus, PCB contamination does present a potential threat to aquatic life.

#### 4.6 RECOMMENDATIONS

The results of this Phase II investigation of the Old Amenia Landfill site showed PCB contamination in 15 of 20 soil samples collected, at concentrations ranging from 2.3 to 250 mg/kg. In addition, PCB contamination was detected in three of five sediment samples and one of five surface water samples obtained from the wetlands area adjacent to the site. The New York State Division of Fish and Wildlife has concluded that these levels of PCBs indicate widespread contamination of significance to wildlife. Therefore, the Old Amenia Landfill has been classified as a Class 2 site (Ref. 24).

Based on the information obtained in this investigation, a remedial investigation (RI) of the Old Amenia Landfill is warranted. The goals of the RI should be to fully delineate the extent and magnitude of contamination present, assess the degree and rate of migration of contaminants from the site, and evaluate the threat posed to human health and the environment by the contamination. Activities to be conducted as part of the RI should include additional soil sampling, installation of test trenches, implementation of a groundwater monitoring program, and biomonitoring of aquatic species in the adjacent wetlands. These activities are described in greater detail in the following sections.

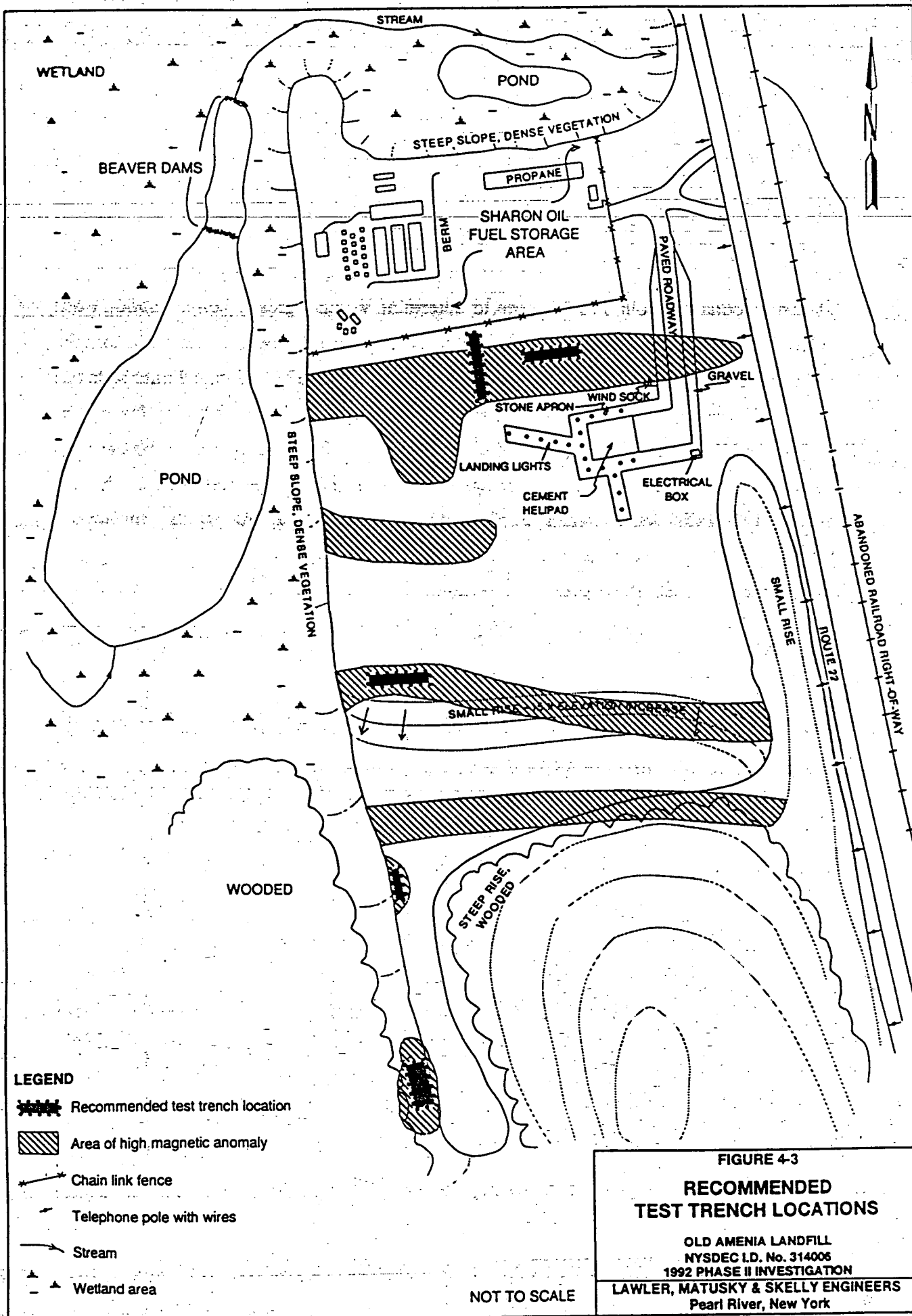
#### 4.6.1 Soil Sampling

Additional soil sampling should be conducted to fully delineate the extent and magnitude of PCB contamination at the site. Samples should be collected in the areas of high concentrations of PCBs identified during the previous investigations. In addition, samples should be obtained from 6 to 8 ft deep to determine whether greater contamination exists beneath the surface. All PCB samples collected to date have been surface soil samples collected from 0 to 6 in. PCB-contaminated materials may have been dumped onto soils that were later covered by a foot or more of clean fill; thus, greater PCB contamination may be encountered with depth at the site. Soil samples obtained from borings should be observed for oil stains; PCB analyses of those samples with visible signs of oil may confirm that the source of the PCBs was contaminated oil as opposed to pure PCB product. Subsurface soil sampling may also serve to locate the source of the VOC contamination identified in the soil gas samples obtained at the site.

#### 4.6.2 Test Trenches

Test trenches should be installed to locate buried drums, confirm the disposal of industrial wastes, and identify the source of VOC and PCB contamination at the site. Five preliminary test trench locations are proposed (Figure 4-3) based on an evaluation of the geophysics and soil gas data. Two test pits are recommended in the central site area between the helipad and the Sharon Oil enclosure as the largest identified magnetic anomaly was located in this area. The highest VOC concentrations detected in the soil gas were also obtained in this area, indicating that a contaminant source such as buried drums may be present at this location. One test pit is recommended for the base of the small rise on the southwestern side of the central site area, at the western end of the magnetic anomaly located in this area. Although no soil gas data were obtained for this immediate area, moderate concentrations of VOCs were detected in soil gas samples obtained at the top of the rise.

Two more test pits are recommended in the southern portion of the site. One trench should be located near the scrap metal disposal area at the northern end of the access road leading to the drum disposal area. The purpose would be to investigate the small magnetic anomaly





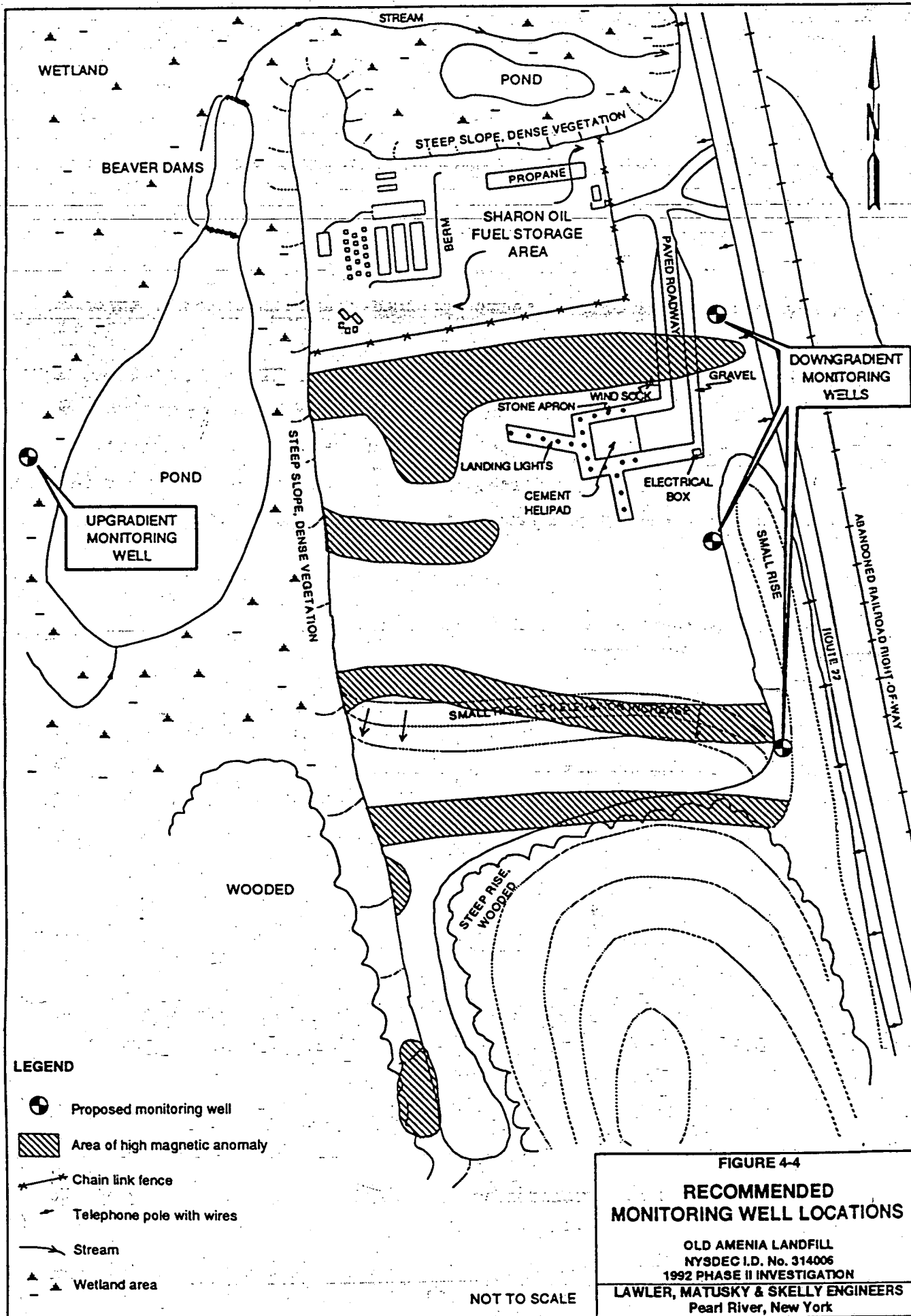
at this location. The other test pit should be located in the drum disposal area to determine the condition of the drums and whether any of the drums contain industrial wastes that can be sampled.

The test pits should be excavated to a maximum depth of 25 ft and continued horizontally as required to attempt to determine the number of buried drums existing at the site. Any drums or waste masses encountered will be sampled for full TCL organics and metals, full EP toxicity, reactivity, corrosivity, ignitability, and possibly TCLP. The trenches will then be backfilled and graded level after sampling. The results of the test trench investigation will be used to determine whether an interim remedial measure (IRM) should be performed at the site. The purpose of the IRM would be to excavate any buried drums on-site that are acting as contaminant sources and thereby eliminate the continued release of contaminants to the environment.

#### 4.6.3 Groundwater Monitoring

Implementation of a groundwater monitoring program is recommended to determine whether the contamination present at the site has impacted the underlying aquifer and whether contaminants are migrating from the site in the groundwater. In particular, the detection of relatively high levels of VOCs in the soil gas at the site indicates the potential for VOC contamination of the underlying aquifer. One upgradient well should be installed to provide representative background samples. A minimum of three downgradient wells should be installed to monitor groundwater flow as well as water quality in the underlying aquifer (Figure 4-4). The monitoring wells should be located based on the results of the Phase II investigation, including the geophysics survey and environmental sampling, and should be installed so as to provide pertinent data on site stratigraphy and groundwater regime. A site survey will also be necessary as part of the groundwater monitoring program.

Before any monitoring wells are installed, LMS recommends the installation of a geotechnical boring to identify the immediate site stratigraphy. The boring should be located in the vicinity of one of the downgradient monitoring wells and should be sampled continuously into the water table. Soil samples should be examined for physical characteristics, including color,



texture, grain size, angularity, relative moisture content, permeability, and depositional source. Also, each sample should be screened using an OVA and/or PID. Samples showing signs of contamination during field screening should be archived for possible chemical analysis. The boring should be advanced into the saturated zone until bedrock or impermeable strata are encountered or until a maximum depth of 80 ft is reached. It is estimated that groundwater may be encountered 20 to 30 ft below the landfill surface. This water may be related to a perched zone and, if an impermeable stratum exists below this water, it will be important to identify its limit. Bedrock is expected to be encountered at relatively shallow depths in certain areas at the site (south and southeast). Other site areas may contain a substantially thicker blanket of unconsolidated material.

If a less permeable layer is encountered, LMS recommends installing a screened monitoring well to that depth. If bedrock is encountered, the monitoring well should be installed as a screened sampling point at the borehole overburden interface. If neither an impermeable layer nor bedrock is encountered, the boring should be continued to 80 ft, where a solid PVC riser should be installed. A downhole conductivity probe (EM-39) should be used to determine the interval with the greatest conductivity change. The results will show the depth of the greatest concentration of conductive leachate.

Following completion of the geophysics boring and analysis of the collected data, the actual depth at which the wells should be screened can be determined. Any remaining wells should be installed in a similar stratum. As stratigraphic conditions over a large distance may be dissimilar, it may be necessary to determine the depth in the field.

Recommended locations for three downgradient monitoring wells are along the expected downgradient side of the landfill (east). Although the overall groundwater flow pattern in this area is expected to be to the east, the elevated rise that has relatively shallow bedrock at the southern end of the site may induce a northerly component of flow off the slope. It may also be necessary to install a group of deeper wells to detect heavier compounds such as vinyl chloride.

There are several potential locations for the upgradient well. One is the central region of the swamp west of the site. Installation of a well at this location would need to be facilitated by a floating barge rig. If this is not feasible, an upgradient well located west of the site and wetlands area may be necessary. Although not an optimum location because of the overall distance between the wells, the well would provide background water quality samples.

After completion, each well would be developed by pumping and surging or by the air-lift method. Following well development and subsequent sampling, each monitoring well would be slug tested to determine the horizontal hydraulic conductivity of the screened strata. If the monitoring wells are installed on the surface of unconsolidated bedding, which is considered to have greatly increased permeability from each boring, LMS would recommend collecting a Shelby tube sample. These samples would be submitted for triaxial vertical permeability testing to determine the effectiveness of this layer in preventing vertical migration.

#### 4.6.4 Biomonitoring Program

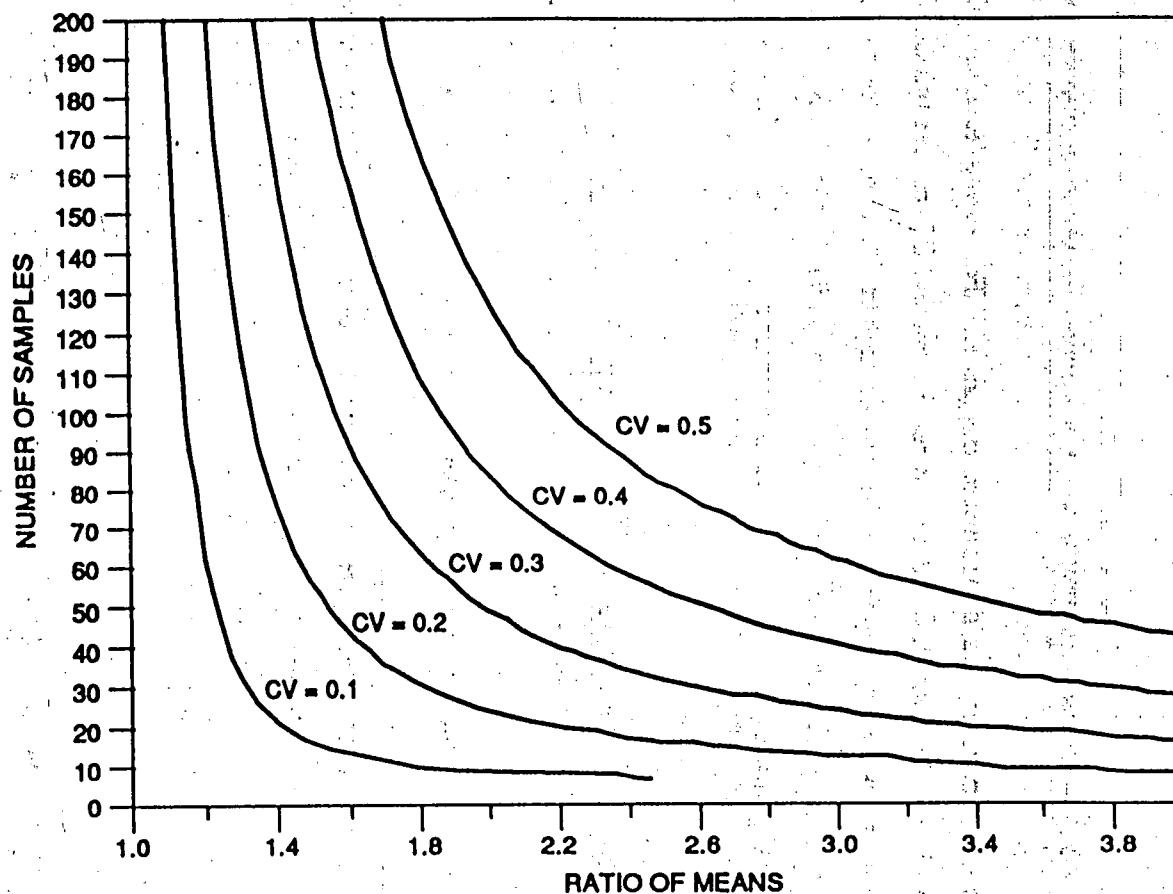
Because of the PCB contamination in the sediments and surface water at the site, LMS recommends a biomonitoring program to determine the extent of bioaccumulation of PCBs in aquatic organisms in the wetlands adjacent to the site. An uncontaminated upstream community must be identified for the program; northwest of the site there is a potentially appropriate lake from which the stream flows.

A cost-effective biomonitoring program requires a two-stage approach. In the first stage a limited number of sample organisms (10 to 15) of up to three species would be collected from both the upstream, background location and the potentially impacted area. (Depending on the size of the organism and the sample size requirement for the analyses to be performed, more than one organism may be required to constitute a sample.) The samples would be analyzed for PCBs and the results reviewed to determine the nature of the second stage of the program.

The results from the first stage should provide information on the background levels of PCBs, the extent of variability in PCB concentrations among individual organisms, and the percent difference (if any) in the mean PCB concentrations between the background and potentially impacted organisms. The most appropriate species can then be selected for the second stage of the biomonitoring program. A species that appears to be bioaccumulating PCBs and that demonstrates a lesser degree of variability among individual organisms should be selected. The preliminary study can be used to determine the number of samples required to demonstrate with a given degree of confidence ( $\alpha$  and  $\beta$  levels) a statistically significant difference between the upstream and downstream organisms. For example, if a 20% difference between the mean upstream and downstream sample PCB concentrations is considered adequate to show a positive impact by the site on aquatic life, and the coefficient of variability (CV) determined in the preliminary study for a particular species is 0.30 (30%), the number of sample organisms required at a 95% confidence level ( $\alpha=0.05$ ,  $\beta=0.10$ ) would be 65 (Figure 4-5).

Two-stage biomonitoring facilitates an evaluation, based on preliminary data, of the degree of difference between background and potentially impacted organisms that is adequate to positively attribute bioaccumulation of PCBs in adjacent aquatic life to site contamination. Based on this evaluation, the number of sample organisms required to provide statistically significant results to make this determination can be obtained from Figure 4-5. In this way initial costs of the biomonitoring program are reduced and the overall costs are minimized through selection of an appropriate number of sample organisms. In addition, the state can review the preliminary data obtained to determine the degree of confidence and associated costs desirable for the second phase of the program.

In the initial stage of the biomonitoring program, the on-site pond and upstream lake may be electrofished to obtain the sample organisms. Up to three species present in sufficient abundance (e.g., crayfish, bullheads, or minnows) can then be selected for collection. As the pond is a relatively contained area, any species of fish present may be selected. In open rivers where fish may migrate from one area to another, using fish as the test species may not be appropriate; however, at this site fish would be preferable.



CV - Coefficient of variation

$\alpha$  - Probability of a Type I error (say there is a difference when there is none -- consequence is remediation where none is needed)

$\beta$  - Probability of a Type II error (say there is no difference when there really is -- consequence is no remediation at a site that needs it)

**FIGURE 4-3**  
**NUMBER OF SAMPLES REQUIRED**  
**TO DETECT DIFFERENCE AT**  
 $\alpha=0.05$ ,  $\beta=0.10$ , AND VARIOUS  
**COEFFICIENTS OF VARIATION**

OLD AMENIA LANDFILL  
 NYBDEC I.D. No. 314008  
 1992 PHASE II INVESTIGATION  
 LAWLER, MATUSKY & SKELLY ENGINEERS  
 Pearl River, New York

Additional surface water and sediment sampling is also recommended in conjunction with the biomonitoring program to further delineate the extent of contamination in this area. Also, contaminant concentrations detected in surface waters and sediments may be used in applicable mathematical models to predict the extent of bioaccumulation in aquatic life.

## REFERENCES CITED

- [1] Memo documenting interview of 26 November 1991 with Gerald Wilcox, longtime town resident, concerning past site activities. [Appendix B]
- [2] Lawler, Matusky & Skelly Engineers (LMS). 1991. Site inspection report.
- [3] Tetra•K Testing. 1991. Soil gas survey report.
- [4] Letter to Michael Komoroske, NYSDEC, from Sandra L. Foose, EPA Region II, regarding NUS Corporation sampling data for Old Amenia Landfill. 12 September 1990. [Appendix B]
- [5] Lawler, Matusky & Skelly Engineers (LMS). 1991. Sampling report.
- [6] Lawler, Matusky & Skelly Engineers (LMS). 1991. Health and safety plan.
- [7] Newspaper clipping from the *Harlem Valley Times*. 23 June 1970.
- [8] Dutchess County Department of Health (DCDOH). Memo to David Ruff from C.H. Wright regarding presence of drums containing industrial wastes at the site. 1 July 1970.
- [9] Letter to Salvatore Surico from David Ruff, Senior Sanitarian, DCDOH, regarding spillage of industrial wastes on ground at site. 23 October 1970.
- [10] Dutchess County Department of Health (DCDOH) memo to Henry W. Scoralick from David Ruff regarding Surico refuse disposal site. 26 October 1970. [Appendix B]
- [11] New York State Department of Environmental Conservation (NYSDEC) written confirmation of verbal communication between Jerry Wilcox, local resident, and Michael Komoroske regarding history of Old Amenia Landfill. 7 September 1990.
- [12] New York State Department of Environmental Conservation (NYSDEC) Receptor Effects of Air Contamination Source from William McEnroe regarding Amenia Landfill site. 21 April 1971.
- [13] Dutchess County Department of Health (DCDOH) memo to file from Ellis W. Adams, Assistant Project Director, regarding Surico Landfill. 27 April 1971.
- [14] New York State Department of Environmental Conservation (NYSDEC) written confirmation of verbal communication between Karl Saliter, site owner, and Michael Komoroske regarding access to site. 6 September 1990.



## REFERENCES CITED

(Continued)

- [15] New York State Department of Environmental Conservation (NYSDEC) Refuse Disposal Area Inspection Reports for Amenia Landfill completed by E.W. Adams, DCDOH. 17 February 1972, 30 July 1973, 5 September 1973, 2 October 1973, 4 February 1974.
- [16] Gerber, J.G. 1982. Water Resources Study for Dutchess County. Final Report. Dutchess County Department of Planning.
- [17] Simmons, E.T., I.G. Grossman, and R.C. Health. 1961. Groundwater resources of Dutchess County, New York. U.S. Geological Survey and New York Water Resources Commission. Bulletin GW-43. Albany, NY.
- [18] INTEX. 1991. Geophysical survey report for Old Amenia Landfill site.
- [19] Aquatec Inc. and Nytest Environmental, Inc. 1991. Analytical data package.
- [20] Dragun, J. 1988. *The Soil Chemistry of Hazardous Materials*. Silver Spring, MD: The Hazardous Materials Control Research Institute. pp. 77, 79.
- [21] Bowan, H.J.M. 1979. *Environmental Chemistry of the Elements*. New York: Academic Press Inc. pp. 60-61.
- [22] Lawler, Matusky & Skelly Engineers (LMS). 1991. Data usability summary. [Appendix A]
- [23] Data Validation Services. 1992. Data validation report.
- [24] New York State Department of Environmental Conservation (NYSDEC), memo to Daniel Eaton, Bureau of Hazardous Site Control, from Richard Koeppicus, Bureau of Environmental Protection, Division of Fish and Wildlife, regarding Phase II investigation of Old Amenia Landfill. 26 August 1992. [Appendix B]

## LIST OF SUPPORTING DOCUMENTATION

### I REFERENCE DOCUMENTATION

Newspaper clipping from the *Harlem Valley Times*. 23 June 1970. [Ref. 7]

Dutchess County Department of Health (DCDOH). Memo to David Ruff from C.H. Wright regarding presence of drums containing industrial wastes at the site. 1 July 1970. [Ref. 8]

Letter to Salvatore Surico from David Ruff, Senior Sanitarian, DCDOH, regarding spillage of industrial wastes on ground at site. 23 October 1970. [Ref. 9]

New York State Department of Environmental Conservation (NYSDEC) written confirmation of verbal communication between Jerry Wilcox, local resident, and Michael Komoroske regarding history of Old Amenia Landfill. 7 September 1990. [Ref. 11]

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Dutchess County Department of Health (DCDOH) memo to file from Ellis W. Adams, Assistant Project Director, regarding Surico Landfill. 27 April 1971. [Ref. 13]

New York State Department of Environmental Conservation (NYSDEC) written confirmation of verbal communication between Karl Saliter, site owner, and Michael Komoroske regarding access to site. 6 September 1990. [Ref. 14]

New York State Department of Environmental Conservation (NYSDEC) Refuse Disposal Area Inspection Reports for Amenia Landfill completed by E.W. Adams, DCDOH. 17 February 1972, 30 July 1973, 5 September 1973, 2 October 1973, 4 February 1974. [Ref. 15]

Gerber, J.G. 1982. Water Resources Study for Dutchess County. Final Report. Dutchess County Department of Planning. [Ref. 16]

Simmons, E.T., I.G. Grossman, and R.C. Health. 1961. Groundwater resources of Dutchess County, New York. U.S. Geological Survey and New York Water Resources Commission. Bulletin GW-43. Albany, NY. [Ref. 17]

Dragun, J. 1988. *The Soil Chemistry of Hazardous Materials*. Silver Spring, MD: The Hazardous Materials Control Research Institute. pp. 77, 79. [Ref. 20]

Bowan, H.J.M. 1979. *Environmental Chemistry of the Elements*. New York: Academic Press Inc. pp. 60-61. [Ref. 21]

## II SUBCONTRACTOR OR SUBCONSULTANT REPORTS

- II.i Geophysics Survey [Ref. 18]
- II.ii Soil Gas Survey [Ref. 3]
- II.iii Data Validation Report [Ref. 23]
- II.iv Analytical Data Package [Ref. 19]

## III HEALTH AND SAFETY PLAN [Ref. 6]

## IV SITE INSPECTION REPORT [Ref. 2]

## V SAMPLING REPORT [Ref. 5]

**APPENDIX A**  
**DATA USABILITY SUMMARY**

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## DATA USABILITY SUMMARY

The final report from Data Validation Services concluded that the samples collected from the Old Amenia Landfill site (I.D. No. 314006) and analyzed by Aquatec Inc. for low-level PCBs were in compliance with Analytical Services Protocol (ASP December 1989). The remaining analyses, conducted by Nytest Environmental, Inc., were in compliance with the following exceptions:

### Volatile Organic Compounds

- VOC continuing calibration standards (CCS) contained components with percent differences (%D) exceeding 35%, causing all of the VOC data, with the exception of sample AMSW-05, to be noncompliant.
- The matrix spike blank associated with sediment samples AMSD-01 through AMSD-05 had percent recoveries outside the allowable 75 to 125% range. Additionally, the initial calibration standards associated with these samples were not processed in consecutive order, causing these VOC analyses to be noncompliant.
- The method blank associated with AMSW-04 contained a tentatively identified compound (TIC) at a level exceeding 10% of the nearest internal standard, causing the VOC analysis for this sample to be noncompliant.

### Base/Neutral Acid Extractables

- The BNA matrix spike blanks produced percent recoveries outside the allowable 75 to 125% range, causing all of the BNA results to be noncompliant.
- The BNA CCS contained components with percent differences exceeding 25%, causing AMSW-01, -02, and -03; AMSS-17, -18, -19, and -20; AMSD-01, -02, -03, -04, and -05 to be noncompliant.
- The BNA instrument performance indicates that some components could not be detected at the required contract-required quantitation limit (CRQL), causing AMSW-04 and -05; AMSD-01, -02, -03, -04, and -05; and the field blank to be noncompliant.
- The BNA analysis of samples AMSW-04 and the field blank produced slightly elevated surrogate recoveries; reextraction of these samples was not performed as required and therefore the data are noncompliant.

- The initial analysis of AMSS-19 resulted in nonmatrix-related surrogate failure, and reextraction of this sample occurred well outside the required holding time, causing the data for both analyses to be noncompliant.

#### **Pesticides/PCBs**

- The pesticide/PCB aqueous matrix spike blank produced percent recoveries outside the allowable 75 to 125% range, causing AMSW-01, -02, -03, -04, and -05 and the field blank to be noncompliant.
- Samples AMSD-04 and -05 were analyzed for pesticides/PCBs at a 1:5 dilution without evidence of matrix or target compound chromatographic contribution, causing the data to be noncompliant.

After reviewing the data report and the validator's report, LMS concluded the following with respect to the noncompliant data:

#### **Volatile Organic Compounds**

- The continuing calibration standards percent difference components outside the required limit do not directly affect the reported data. Fluctuations in operating conditions of the gas chromatograph (GC), as well as temperature variations, can affect the CCS. The exceedances noted in the validator's report are not significant and therefore do not affect the overall usability of the reported VOC results.
- The matrix spike blank associated with the sediment samples produced two recoveries just below the allowable limit of 75%. However, as these suppressed recoveries are common for the matrix spike blank, the overall usability of the data is unaffected. Additionally, the improper processing of the initial calibration standards associated with these samples did not significantly alter the reported results and does not affect the final usability of the data.
- The reporting of a TIC at a level exceeding 10% of the nearest internal standard in the method blank associated with AMSW-04 does not affect the data usability.

#### **Base/Neutral Acid Extractables**

- The matrix spike blank violations that caused the BNA data to be noncompliant were not significant and therefore do not affect the overall usability of the data.

- The semivolatile CCS for this data package contained components with %Ds above 25% and, as indicated in the validator's report, do not affect the sample results as reported. Therefore, the final data usability is unaffected.
- The data affected by poor instrument performance, as indicated by the standards processed on 17 and 18 December 1991, should be qualified as estimated, as stated in the validator's report. These data are usable with the appropriate qualifications.
- Samples AMSW-04 and the field blank had slightly elevated surrogate recoveries that were noncompliant and should have been reextracted and reanalyzed; however, the failures were not significant and do not affect the data usability.
- The reextraction and reanalysis of the BNA fraction for AMSS-19 was performed 18 days outside the required extraction time. The reported data from the original extract and reextracted analyses were found to be noncompliant and unusable.

#### Pesticides/PCBs

- The matrix spike blank violation causing samples AMSW-01 through -05 and the field blank to be noncompliant appears to be the result of improper spiking, as discussed in the data validator's report, and therefore does not affect the data usability.
- The dilution of samples AMSD-04 and -05 may have caused low-level target compounds to be diluted out without evidence of matrix or target compound chromatographic contribution. These results are usable but the data are qualified to indicate that the absence of low-level contaminants cannot be substantiated.

The validator found the remaining data compliant with NYSDEC's 1989 ASP. Several other issues that could affect data usability were also reviewed by LMS. The results of that review are presented below.

The reported data for 2-butanone (reported as "ND") should be considered estimated because of poor recovery in the initial and continuing calibration standards. Methylene chloride, detected at 26 µg/l in AMSW-03, was not reported by the laboratory; this omission was subsequently corrected. The surrogate associated with extraction procedure (EP) toxicity herbicide analysis of AMSS-19 did not recover (0%). There can be no confidence that the reported results (ND) are accurate; therefore, the reported data for 2,4-D and 2,4,5-TP

(Silvex) are unusable. The surface soil samples are qualified to indicate that the cyanide results are potentially elevated because the matrix spike recovery was 218%; the sediment samples are qualified to indicate that the cyanide results are potentially depressed because the matrix spike associated with the sediments recovered at only 12%. The EP toxicity silver results are reported with an "N" qualifier as the spike matrix recovery (56%) is outside the control limits. The qualifier was added to the summarized data to indicate that the reported results are possibly biased low. A transcription error for the reported total dissolved solids (TDS) value (245 mg/l) for AMSW-03 was corrected to 235 mg/l in the summary report. The chemical oxygen demand (COD) values for AMSW-01, -04, and -05 are qualified as biased high because the COD absorbances were almost the same as that of the 10 mg/l standard.

Overall, the results of LMS' data usability review concluded that the BNA and the EP toxicity herbicide results for sample AMSS-19 are unusable. However, the results of the matrix spike performed on AMSS-19 can be used to determine the concentrations of nonspiked BNA compounds present in the original sample. The remainder of the data submitted for the Old Amenia site are usable with the appropriate qualifiers, as indicated in Data Validation Services' final report.



**APPENDIX B**

**PERTINENT FILES OR RECORDS**

**100082**

**REFERENCE 1**

**100083**

INTERVIEW ACKNOWLEDGEMENT FORM

Site Name: Amenia Landfill, Route 22, South Site

I.D. Number: 314006

Person Contacted: Mr. Gerald Wilcox

Affiliation: Long-time resident of area,  
Manager of Amenia Sand & Gravel, Inc.

Address: P.O. Box C  
Amenia, NY 12501

Phone:

Person Making Contact: Sara Handy, LMS Engineers

Type of Contact: In person

Date: November 26, 1991

Interview Summary:

Also in attendance at the interview was Roy Budnik of Roy T. Budnik & Associates, Inc., consultant for the owner of the site (John Segalla, owner of Amenia Sand & Gravel). Mr. Budnik has been conducting a literature and deed search regarding the sources and location of contamination at the site as well as potential liability for site conditions. Provided to LMS by Mr. Budnik (as attached) were a property ownership summary and copies of the attendant deeds, an historical summary of operations at the site as compiled by Budnik & Assoc. from their file review and from Mr. Wilcox, and aerial photographs of the site for 1970 and 1990. The latter were obtained from the Dutchess County Real Property Tax Office.

Operation of the Amenia landfill was very controversial in the Town of Amenia in the late 1960's and early 1970's. The owner, Ben Surico, reportedly intended to bring in waste from other counties (i.e., Westchester and Putnam, which were looking for additional disposal sites at that time as their existing landfills were approaching maximum capacity) for disposal at the Amenia landfill site. Some Town Council members supported this plan while others were opposed.

The Amenia landfill was frequently cited by the Dutchess County

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Department of Health (DCDOH) for unsatisfactory operation, beginning in the 1940's and continuing until closure of the landfill in 1976. Conditions at the site included blowing papers, uncovered piles of trash, and unauthorized burning, and was generally considered to be a nuisance by local residents. However, during the period of operation/ownership of the site by Surico, these problems were remedied. The Town Supervisors were pleased with Surico for meeting the requirements of the DCDOH, so they were tolerant of the drums of industrial wastes being stored on site. The aerial photo for this period shows approximately 200 drums present on the site in a bermed area. Drums were placed in an area of the site not visible from Route 22; Mr. Wilcox indicated that they were somewhat visible from the access road leading to the general dumping area.

Based on Mr. Budnik's review of files concerning the site and Mr. Wilcox's memory of what was common knowledge at that time in the Town of Amenia concerning the landfill, industrial wastes were present at the site from December 1968 to April 1971, during Surico's ownership of the property. Mr. Wilcox had no personal knowledge of the types of industrial wastes that may have been stored at or disposed of on site, the procedures for handling drums at the landfill, or the source of the wastes, as he was not present at the site. (Mr. Wilcox was an officer with the NY State Police in Dover Plains during this period.) His only personal experience concerning the landfill in this period was driving past the landfill on a Sunday morning behind a truck carrying drums, which turned into the site. A spray of petroleum compounds coming from the truck hit his windshield. He could not provide any further information regarding this incident, such as any company names on the truck or the drums. The only other information he could provide regarding the possibility of industrial waste disposal at this site is that Mr. Surico is believed to have been connected with a Joseph Fierello of Poughkeepsie, NY, who had ties to Jersey City, NJ, where Mr. Wilcox believes the drums may have come from.

Mr. Wilcox provided the names of the following town residents or officials who might be able to provide additional information concerning the landfill:

- Caroline McEnroe: Justice for Town of Amenia during this period (1968-1971), currently works for Dutchess County.
- Paul Thompson: Town Supervisor during this period (1968 to 1971), currently a Justice for the Town, lives on Depot Hill Rd.
- H. Bertram Miller: Former Postmaster for Town of Amenia.

- George Butz, Sr.: Long-time area resident, currently lives in Wassaic.

Acknowledgement:

I have read the above transcript and I agree that it is an accurate summary of the information verbally conveyed to the LMS interviewer, or as I have revised below, is an accurate account.

Revisions:

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Signature: \_\_\_\_\_ Date: \_\_\_\_\_

100086

**REFERENCE 4**

**100087**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION II  
EDISON, NEW JERSEY 08837

SEP 12 1990

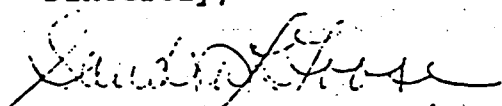
Mr. Michael Komoroske  
NYDEC  
Division of Hazardous Waste Remediation  
50 Wolf Road, Room 218  
Albany, New York 12233-7010

Dear Mr. Komoroske:

Per our conversation on September 10, 1990, pertaining to the  
Amenia Site, Amenia, New York, the following is enclosed: the  
sampling trip report, the sample location map, and the analytical  
data.

If you have any questions, please contact me at 201-906-6808.

Sincerely,

  
Sandra L. Foose, Environmental Engineer  
Superfund Support Section

Attachments

100088

## SAMPLING TRIP REPORT

SITE NAME: Amenia Site (Route 22 South)

TDD #: 02-8612-11

SAMPLING DATE: February 25, 1987

EPA CASE NO: 6888

1. Site Location: See Figure 1
2. Sampling Locations: See Figure 2
3. Sample Descriptions: See Table 1
4. Laboratories Receiving Samples:

| <u>Sample Type</u>            | <u>Name and Address of Laboratory</u>  |
|-------------------------------|--|
| Organics (Aqueous and Soil)   | Clayton Environmental Consultants, Inc.<br>22345 Roethel Drive<br>Novi, Michigan 48050 |
| Inorganics (Aqueous and Soil) | Versar, Inc.<br>6850 Versar Center<br>Springfield, VA 22151                            |

## 5. Sample Dispatch Data:

Organic soil and aqueous samples were shipped by FIT personnel via Federal Express under Airbill No. 495160702 to Clayton Environmental Consultants, Inc. on 2/25/87 at 1830 hours.

Inorganic soil and aqueous samples were shipped by FIT personnel via Federal Express under Airbill No. 495164353 to Versar, Inc. on 2/25/87 at 1830 hours.

## 6. Sampling Personnel

| <u>Name</u>    | <u>Organization</u> | <u>Duties on Site</u>          |
|----------------|---------------------|--------------------------------|
| Gary Bielen    | NUS Corp. - FIT II  | Project Manager, Documentation |
| Jane Bullis    | NUS Corp. - FIT II  | Site Safety Officer            |
| John Ducar     | NUS Corp. - FIT II  | Sample Management              |
| Dan deBruijn   | NUS Corp. - FIT II  | Sampler                        |
| Roberta Riccio | NUS Corp. - FIT II  | Sampler/Decon                  |



7. Weather Conditions:

Sunny, 35°F, wind 0-2 mph.

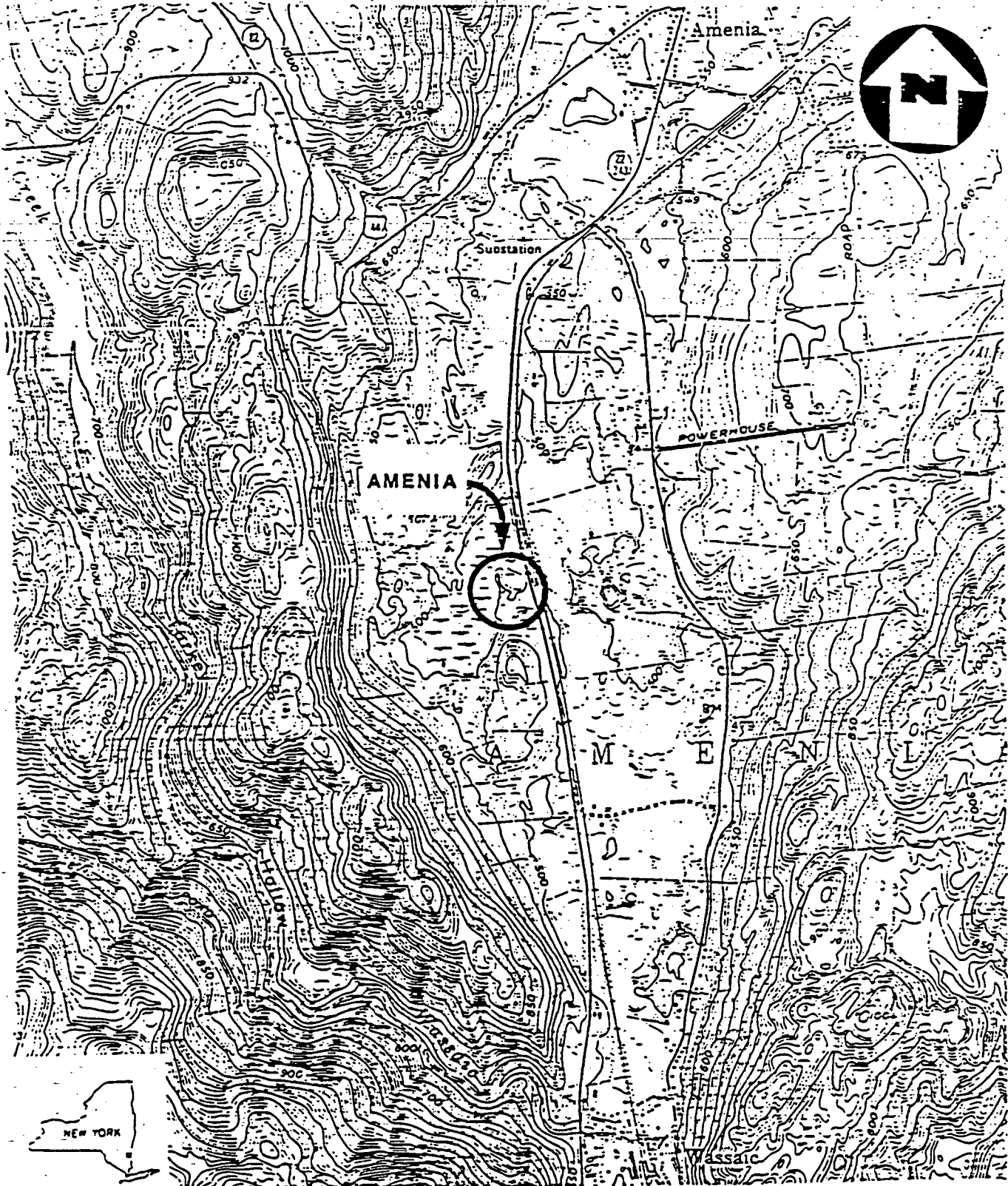
8. Additional Comments:

All samples collected during this investigation will be analyzed for Hazardous Substance List (HSL) Parameters. A total of thirteen (13) environmental samples were collected from the site. Four (4) soil, three (3) surface water and three (3) sediment samples were collected onsite. Three (3) groundwater tap samples were collected off-site. One aqueous QA/QC blank was obtained from the EPA laboratory in Edison, New Jersey and was shipped with the environmental samples. Sample packaging and shipping was performed in accordance with NUS OGM 4.19.

9. Report Prepared By: Gary Bielen Date: 3/3/87

10. Approved By: Rm Naman Date: 3/16/87

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(QUAD) AMENIA, N.Y.

SITE LOCATION MAP  
AMENIA SITE, (ROUTE 22 SOUTH), AMENIA, N.Y.

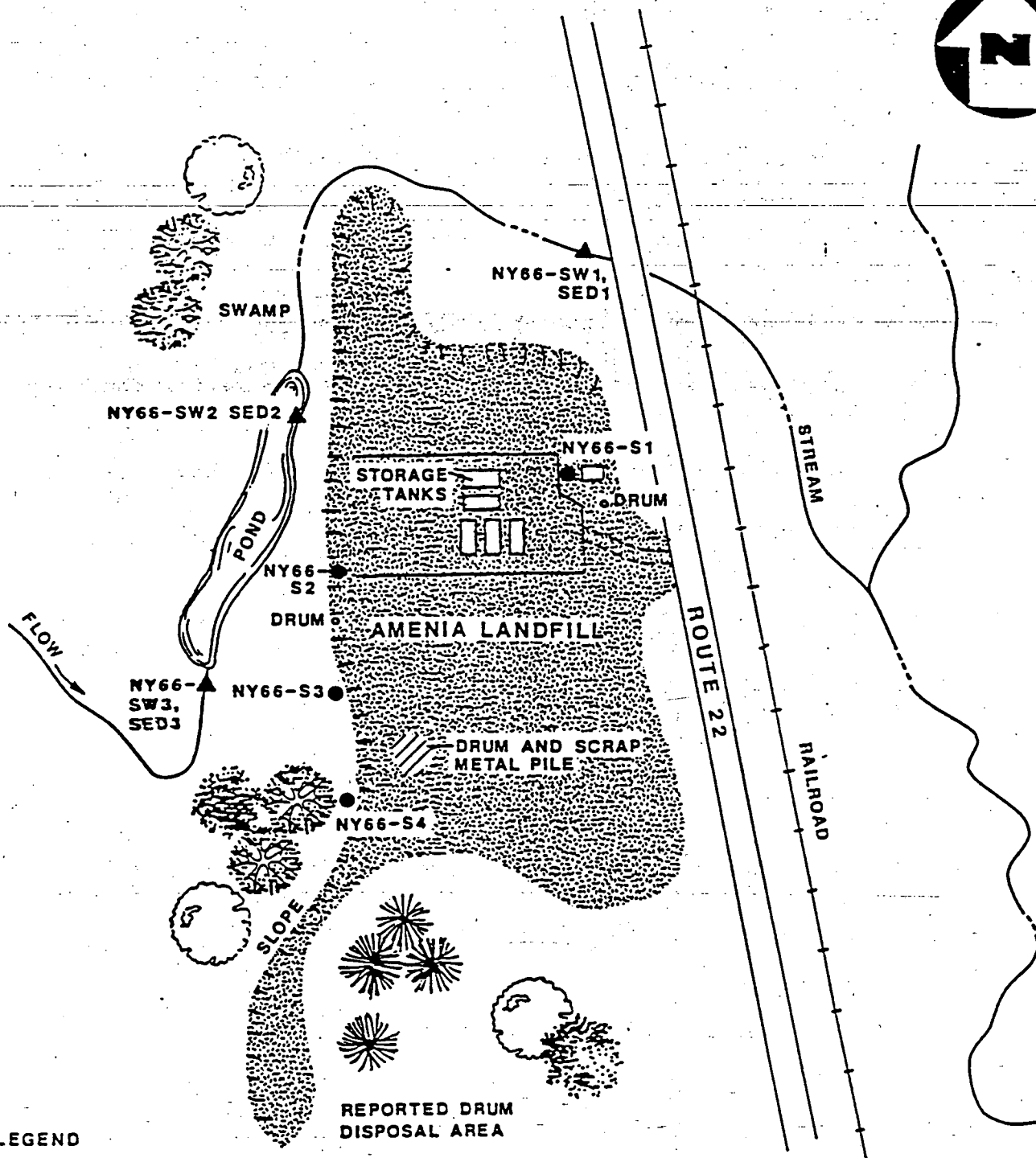
SCALE: 1" = 2000'

FIGURE 1



100091

■ NY66-GW2  
■ NY66-GW1



**LEGEND**

- SOIL SAMPLE
- ▲ SURFACE WATER/SEDIMENT SAMPLE
- GROUNDWATER TAP SAMPLE

■ NY66-GW3

**SAMPLE LOCATION MAP**

**AMENIA SITE, (ROUTE 22 SOUTH), AMENIA, N.Y.**

(NOT TO SCALE)

**FIGURE 2**



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TABLE 1

SAMPLE DESCRIPTIONS  
AMENIA SITE (ROUTE 22 SOUTH)  
AMENIA, NEW YORK  
CASE #6888  
02/25/87

| <u>Sample<br/>ID Number</u> | <u>Organic Traffic<br/>Report Number</u> | <u>Inorganic Traffic<br/>Report Number</u> | <u>Time<br/>(Hours)</u> | <u>Sample<br/>Type</u> | <u>Sample<br/>Location</u>  |
|-----------------------------|--|--|-------------------------|------------------------|---|
| NY66-GW1                    | BI994                                    | MBI493                                     | 1010                    | Groundwater            | Sample taken from<br>spigot of Amenia's<br>town well #4. Well<br>located off Route<br>22 in Amenia.   |
| NY66-GW2                    | BI995                                    | MBI494                                     | 1021                    | Groundwater            | Sample taken from<br>spigot of Amenia's<br>town well #3. Well<br>located off Main<br>Street (Route 343)   |
| NY66-GW3                    | BI996                                    | MBI495                                     | 1110                    | Groundwater            | Sample taken from<br>faucet of private<br>residence. Mr.<br>Schiffer's home is<br>located<br>approximately one<br>to two miles south<br>of the site.  |
| NY66-S1                     | BI987                                    | MBI486                                     | 1400                    | Soil                   | Sample taken 25<br>feet from fence<br>that surrounds oil<br>storage tanks.<br>Fifteen feet from<br>storage tank which<br>is located outside<br>the fenced area.<br>Sample depth is<br>0-6 inches. |
| NY66-S2                     | BI988                                    | MBI487                                     | 1420                    | Soil                   | Sample taken six<br>feet from end of<br>fence that surroun<br>the oil storage area.<br>Sample depth 0-6<br>inches.  |

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TABLE 1 (CONT'D)

SAMPLE DESCRIPTIONS  
 AMENIA SITE (ROUTE 22 SOUTH)  
 AMENIA, NEW YORK  
 CASE #6888  
 02/25/87

| <u>Sample<br/>ID Number</u> | <u>Organic Traffic<br/>Report Number</u> | <u>Inorganic Traffic<br/>Report Number</u> | <u>Time<br/>(Hours)</u> | <u>Sample<br/>Type</u> | <u>Sample<br/>Location</u>   |
|-----------------------------|--|--|-------------------------|------------------------|--|
| NY66-SW2                    | BI998                                    | MBI497                                     | 1440                    | Surface Water          | Sample taken approximately 100 feet from west side of landfill in pond.                            |
| NY66-SED2                   | BK103                                    | MBI501                                     | 1445                    | Sediment               | Sample taken at same location as NY66-SW2.   |
| NY66-S3                     | BI989                                    | MBI488                                     | 1455                    | Soil                   | Sample taken on west side of landfill approximately 25 feet from pond. Sample depth is 0-6 inches. |
| NY66-SW3                    | BI999                                    | MBI498                                     | 1530                    | Surface Water          | Sample taken approximately 40 feet from S3, up-gradient from pond.                                 |
| NY66-SED3                   | BK104                                    | MBI502                                     | 1540                    | Sediment               | Sample taken at same location as NY66-SW3.   |
| NY66-S4                     | BI990                                    | MBI489                                     | 1605                    | Soil                   | Sample taken on west side of landfill approximately 10 feet from pond. Sample depth is 0-6 inches. |
| NY66-SW1                    | BI997                                    | MBI497                                     | 1620                    | Surface Water          | Sample taken approximately 40 feet from Route 22 on west side of road.                             |

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## TABLE 1 (CONT'D)

SAMPLE DESCRIPTIONS  
AMENIA SITE (ROUTE 22 SOUTH)  
AMENIA, NEW YORK  
CASE #6888  
02/25/87

| <u>Sample<br/>ID Number</u> | <u>Organic Traffic<br/>Report Number</u> | <u>Inorganic Traffic<br/>Report Number</u> | <u>Time<br/>(Hours)</u> | <u>Sample<br/>Type</u> | <u>Sample<br/>Location</u>                  |
|-----------------------------|--|--|-------------------------|------------------------|---|
| NY66-SED1                   | BK102                                    | MBI500                                     | 1630                    | Sediment               | Sample taken at<br>same location as<br>SW1. |
| NY66-BL1                    | BI587                                    | MBI504                                     | N/A                     | Aqueous                | Collected from EP/<br>Labs, Edison, N.J.    |

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ANALYTICAL DATA  
NAME: AMENIA LANDFILL  
SAMPLING DATE: 2/25/87  
CASE NUMBER: 6888

INORGANICS

| SAMPLE NUMBER         | NY66-GW1 | NY66-GW2 | NY66-GW3 | NY66-SW1 | NY66-SW2 | NY66-SW3 | NY66-DL1 | NY66-S1 | NY66-S2 | NY66-S3 | NY66-S4 | NY66-SED1 | NY66-SED2 | NY66-SED3 |
|-----------------------|----------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|-----------|-----------|-----------|
| TRAFFIC REPORT NUMBER | MDI 493  | MDI 494  | MDI 495  | MDI 496  | MDI 497  | MDI 498  | MDI 504  | MDI 486 | MDI 487 | MDI 488 | MDI 489 | MDI 500   | MDI 501   | MDI 502   |
| MATRIX                | WATER    | WATER    | WATER    | WATER    | WATER    | WATER    | WATER    | SOIL    | SOIL    | SOIL    | SOIL    | SOIL      | SOIL      | SOIL      |
| UNITS                 | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | MG/KG   | MG/KG   | MG/KG   | MG/KG   | MG/KG     | MG/KG     | MG/KG     |
| Aluminum              | [37]     |          |          | [68]     | [159]    | [63]     | [51]     | 6600    | 10200   | 12800   | 20600   | 9100      | 7050      | 12000     |
| Antimony              |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Arsenic               |          |          |          |          |          |          |          | 6.4     | 10      |         |         |           |           |           |
| Barium                | 0        | 0        | 0        | 0        | 0        | 0        | [4.4]    | 0       | [62]    | [74]    | [84]    | [36]      | [37]      | [37]      |
| Beryllium             |          |          |          |          |          |          |          |         |         |         | [1.1]   | [2.2]     | 13E       |           |
| Cadmium               |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Calcium               | 48300    | 67100    | 77000    | 47100    | 49500    | 39900    | [649]    | 0       | 0       | 0       | 0       | 0         | 0         | 0         |
| Chromium              |          |          |          |          |          |          |          | 8.6     | 18      | 17      | 24      | [8.1]     |           | 17        |
| Cobalt                |          |          |          |          |          |          |          | [12]    | [22]    | [14]    | [12]    | [28]      | [59]      | [8.9]     |
| Copper                |          |          |          |          |          |          |          | 22      | 36      | 50      |         | [16]      |           |           |
| Iron                  | 0        | 0        | 0        | 902      | 1860     | 0        | [67]     | 20000   | 40900   | 33300   | 30600   | 58000     | 175000    | 18400     |
| Lead                  |          | 9.6      |          |          |          |          |          | 14      | 134     | 80      | 43      | 24        | 32        | 36        |
| Magnesium             | 24400    | 28100    | 23100    | 14800    | 16000    | 12800    | [193]    | 10800   | 14400   | 14300   | 6700    | 8520      | [3890]    | 5410      |
| Manganese             |          | 188      | [2.6]    | 310      | 590      | 175      |          | 663     | 793     | 573     | 387     | 1380      | 1170      | 132       |
| Mercury               |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Nickel                |          |          |          |          |          |          |          | 26E     | 52E     | 29E     | [31]    | 76E       | 193E      | [24]      |
| Potassium             | [1420]   | [2330]   | [1620]   | [1430]   | [1250]   | [1270]   |          | [1100]  | [1470]  | [1350]  | [984]   | [1530]    | [1440]    | [732]     |
| Selenium              |          |          |          |          |          |          |          | 2.9     |         |         |         |           |           |           |
| Silver                |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Sodium                | 6250     | 20800    | 45900    | 5360     | 5300     | 0        | [346]    | 0       | 0       | 0       | 0       | 0         | 0         | 0         |
| Thallium              |          |          |          |          |          | 11       |          |         |         |         |         |           |           |           |
| Tin                   |          |          |          |          |          |          |          |         |         | [7.8]   |         |           |           | NR        |
| Vanadium              |          |          |          |          |          |          |          | 0       | 0       | 0       | 0       | 0         | 0         | 0         |
| Zinc                  | 28       | [19]     | 16       | [7.5]    | [13]     | [9.9]    | [18]     | 49      | 179     | 224     | 97      | 165       | 510       | 72        |

NOTES TO INORGANICS DATA:

Blank space - compound analyzed for but not detected

0 - analysis did not pass EPA QA/QC requirements

[ ] - compound present below specified detection limits, value is an estimate

B - compound found in laboratory blank as well as the sample and indicates possible/probable blank contamination

E - value estimated due to laboratory interference

NR - analysis not required

100096

ANALYTICAL DATA  
 NAME: ANEMIA LANDFILL  
 SAMPLING DATE: 2/25/87  
 CASE NUMBER: 6888

SEMI-VOLATILES

| SAMPLE NUMBER               | MY66-GW1 | MY66-GW2 | MY66-GW3 | MY66-SW1 | MY66-SW2 | MY66-SW3 | MY66-M1 | MY66-S1 | MY66-S2 | MY66-S3 | MY66-S4 | MY66-SED1 | MY66-SED2 | MY66-SED3 |
|-----------------------------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|---------|-----------|-----------|-----------|
| TRAFFIC REPORT NUMBER       | RI 934   | RI 995   | RI 996   | RI 997   | RI 998   | RI 999   | BI 587  | BI 987  | BI 988  | RI 989  | RI 990  | RK 102    | RK 103    | RK 104    |
| MATRIX                      | WATER    | WATER    | WATER    | WATER    | WATER    | WATER    | WATER   | SOIL    | SOIL    | SOIL    | SOIL    | SOIL      | SOIL      | SOIL      |
| UNITS                       | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/L    | UG/KG   | UG/KG   | UG/KG   | UG/KG   | UG/KG     | UG/KG     | UG/KG     |
| CONC./DILUTION FACTOR       | 1        | 1        | 1        | 1        | 1        | 1        | 1       | 2       | 2       | 2       | 2       | 2         | 2         | 2         |
| Phenol                      |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Bis(2-Chloroethyl)Ether     |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2-Chlorophenol              |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 1,3-Dichlorobenzene         |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 1,4-Dichlorobenzene         |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Benzyl Alcohol              |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 1,2-Dichlorobenzene         |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2-Methylphenol              |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Bis(2-Chloroisopropyl)Ether |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 4-Methylphenol              |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| N-Nitroso-Di-n-Propylamine  |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Hexachloroethane            |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Nitrobenzene                |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Isophorone                  |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2-Nitrophenol               |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2,4-Dimethylphenol          |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Benzoic Acid                |          |          |          |          |          |          |         |         | 6707    | 12007   | Q       |           |           |           |
| Bis(2-Chloroethoxy)Methane  |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2,4-Dichlorophenol          |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 1,2,4-Trichlorobenzene      |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Naphthalene                 |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 4-Chloroaniline             |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Hexachlorobutadiene         |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 4-Chloro-3-Methylphenol     |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2-Methylnaphthalene         |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Hexachlorocyclopentadiene   |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2,4,6-Trichlorophenol       |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2,4,5-Trichlorophenol       |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2-Chloronaphthalene         |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2-Nitroaniline              |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Dimethyl Phthalate          |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Acenaphthylene              |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 3-Nitroaniline              |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Acenaphthene                |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2,4-Dinitrophenol           |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 4-Nitrophenol               |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Dibenzofuran                |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2,4-Dinitrotoluene          |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 2,6-Dinitrotoluene          |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Diethylphthalate            |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| 4-Chlorophenylphenyl ether  |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |
| Fluorene                    |          |          |          |          |          |          |         |         |         |         | Q       |           |           |           |



ANALYTICAL DATA  
 NAME: AMENTA LANDFILL  
 SAMPLING DATE: 2/25/87  
 CASE NUMBER: 6888

PESTICIDES/PCBs

| SAMPLE NUMBER         | MY66-GW11 | MY66-GW21 | MY66-GW31 | MY66-SW11 | MY66-SW21 | MY66-SW31 | MY66-BL11 | MY66-S1 | MY66-S2 | MY66-S3 | MY66-S4 | MY66-SED1 | MY66-SED2 | MY66-SED3 |
|-----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------|---------|---------|---------|-----------|-----------|-----------|
| TRAFFIC REPORT NUMBER | BI 994    | BI 995    | BI 996    | BI 997    | BI 998    | BI 999    | BI 587    | BI 987  | BI 988  | BI 989  | BI 990  | BK 102    | BK 103    | BK 104    |
| MATRIX                | WATER     | WATER     | WATER     | WATER     | WATER     | WATER     | WATER     | SOIL    | SOIL    | SOIL    | SOIL    | SOIL      | SOIL      | SOIL      |
| UNITS                 | UG/L      | UG/L      | UG/L      | UG/L      | UG/L      | UG/L      | UG/L      | UG/KG   | UG/KG   | UG/KG   | UG/KG   | UG/KG     | UG/KG     | UG/KG     |
| CONC./DILUTION FACTOR | 1         | 1         | 1         | 1         | 1         | 1         | 1         | 2       | 2       | 2       | 2       | 2         | 2         | 2         |
| Alpha-BHC             |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Beta-BHC              |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Delta-BHC             |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Gamma-BHC (lindane)   |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Heptachlor            |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Aldrin                |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Heptachlor Epoxide    |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Endosulfan I          |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Dieldrin              |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| 4,4'-DDE              |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Endrin                |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Endosulfan II         |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| 4,4'-DDD              |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Endosulfan sulfate    |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Endrin Aldehyde       |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| 4,4'-DDT              |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Methoxychlor          |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Endrin Ketone         |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Chlordane             |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Toxaphene             |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Aroclor-1016          |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Aroclor-1221          |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Aroclor-1232          |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Aroclor-1242          |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Aroclor-1248          |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |
| Aroclor-1254          |           |           |           |           |           |           |           | 14000   | 170000  | 13000   | 0       | 3700      | 0         | 0         |
| Aroclor-1260          |           |           |           |           |           |           |           | 0       |         | 0       | 0       | 0         | 0         | 0         |

NOTES TO ORGANICS DATA:

- Blank space - compound analyzed for but not detected
- 0 - analysis did not pass EPA QA/QC requirements
- 1 - compound present below specified detection limits, value is an estimate
- 0 - compound found in laboratory blank as well as the sample, and indicates possible/probable blank contamination
- NR - analysis not required

100098

## ANALYTICAL DATA

NAME: AMENIA LANDFILL

SAMPLING DATE: 2/25/87

CASE NUMBER: 6888

## SEMI-VOLATILES

| SAMPLE NUMBER              | HY66-GW1 | HY66-GW2 | HY66-GW3 | HY66-SW1 | HY66-SW2 | HY66-SW3 | HY66-BL1 | HY66-S1 | HY66-S2 | HY66-S3 | HY66-S4 | HY66-SED1 | HY66-SED2 | HY66-SED3 |
|----------------------------|----------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|-----------|-----------|-----------|
| TRAFFIC REPORT NUMBER      | BI 994   | BI 995   | BI 996   | BI 997   | BI 998   | BI 999   | BI 587   | BI 987  | BI 988  | BI 989  | BI 990  | BK 102    | BK 103    | BK 104    |
| MATRIX                     | WATER    | WATER    | WATER    | WATER    | WATER    | WATER    | WATER    | SOIL    | SOIL    | SOIL    | SOIL    | SOIL      | SOIL      | SOIL      |
| UNITS                      | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/KG   | UG/KG   | UG/KG   | UG/KG   | UG/KG     | UG/KG     | UG/KG     |
| CONC./DILUTION FACTOR      | 1        | 1        | 1        | 1        | 1        | 1        | 1        | 2       | 2       | 2       | 2       | 2         | 2         | 2         |
| 4-Nitroaniline             |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| 4,6-Dinitro-2-Methylphenol |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| N-Nitrosodiphenylamine     |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| 4-Bromophenylphenyl ether  |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Hexachlorobenzene          |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Pentachlorophenol          |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Phenanthrene               |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Anthracene                 |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Di-n-Butylphthalate        |          |          |          | 15       |          | J        |          |         | 5407    |         | 0       |           |           |           |
| Fluoranthene               |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Pyrene                     |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Butylbenzylphthalate       |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| 3,3'-Dichlorobenzidine     |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Benzo(a)Anthracene         |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Bis(2-Ethylhexyl)Phthalate |          |          | 220      |          |          |          |          |         | 1600    |         | 0       |           |           | 7307      |
| Chrysene                   |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Di-n-Octyl Phthalate       |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Benzo(b)Fluoranthene       |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Benzo(k)Fluoranthene       |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Benzo(a)Pyrene             |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Indeno(1,2,3-cd)Pyrene     |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Dibenzo(a,h)Anthracene     |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |
| Benzo(ghi)Perylene         |          |          |          |          |          |          |          |         |         |         | 0       |           |           |           |

## NOTES TO ORGANICS DATA:

Blank space - compound analyzed for but not detected

0 - analysis did not pass EPA QA/QC requirements

J - compound present below specified detection limits,  
value is an estimateB - compound found in laboratory blank as well as the sample,  
and indicates possible/probable blank contamination

NR - analysis not required

100099

## ANALYTICAL DATA

NAME: AMERICA LANDFILL

SAMPLING DATE: 2/25/87

CASE NUMBER: 6888

## VOLATILES

| SAMPLE NUMBER             | MY66-GW1 | MY66-GW2 | MY66-GW3 | MY66-SW1 | MY66-SW2 | MY66-SW3 | MY66-BL1 | MY66-S1 | MY66-S2 | MY66-S3 | MY66-S4 | MY66-SED1 | MY66-SED2 | MY66-SED3 |
|---------------------------|----------|----------|----------|----------|----------|----------|----------|---------|---------|---------|---------|-----------|-----------|-----------|
| TRAFFIC REPORT NUMBER     | BI 994   | BI 995   | BI 996   | BI 997   | BI 998   | BI 999   | BI 587   | BI 987  | BI 988  | BI 989  | BI 990  | BK 102    | BK 103    | BK 104    |
| MATRIX                    | WATER    | WATER    | WATER    | WATER    | WATER    | WATER    | WATER    | SOIL    | SOIL    | SOIL    | SOIL    | SOIL      | SOIL      | SOIL      |
| UNITS                     | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/L     | UG/KG   | UG/KG   | UG/KG   | UG/KG   | UG/KG     | UG/KG     | UG/KG     |
| CONC./DILUTION FACTOR     | 1        | 1        | 1        | 1        | 1        | 1        | 1        | 1       | 1       | 1       | 1       | 1         | 1         | 1         |
| Chloroethane              |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Bromoethane               |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Vinyl Chloride            |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Chloroethane              |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Methylene Chloride        | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0       | 0       | 0       | 0       | 0         | 0         | 0         |
| Acetone                   | 0        | 0        | 0        | 0        | 0        | 0        | 0        | 0       | 0       | 0       | 0       | 390B      | 250B      | 0         |
| Carbon Disulfide          |          |          |          | J        |          | J        |          |         |         |         |         |           |           |           |
| 1,1-Dichloroethene        |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| 1,1-Dichloroethane        |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Trans-1,2-Dichloroethene  |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Chloroform                |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| 1,2-Dichloroethane        |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| 2-Butanone                |          |          |          |          |          |          |          |         |         |         |         | 34        | 54        | 36        |
| 1,1,1-Trichloroethane     |          |          |          |          |          |          |          |         |         |         | J       |           |           |           |
| Carbon Tetrachloride      |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Vinyl Acetate             |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Bromodichloroethane       |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| 1,1,2,2-Tetrachloroethane |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| 1,2-Dichloropropane       |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Trans-1,3-Dichloropropene |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Trichloroethene           |          |          | J        | J        |          | J        |          |         |         |         |         |           |           | J         |
| Dibromochloroethane       |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| 1,1,2-Trichloroethane     |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Benzene                   |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Cis-1,3-Dichloropropene   |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| 2-Chloroethylvinylether   |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Bromoform                 |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| 2-Hexanone                |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| 4-Methyl-2-Pentanone      |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Tetrachloroethene         |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Toluene                   |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Chlorobenzene             |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Ethylbenzene              |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Styrene                   |          |          |          |          |          |          |          |         |         |         |         |           |           |           |
| Total Xylenes             |          |          |          |          |          |          |          |         |         |         |         |           |           |           |

## NOTES TO ORGANICS DATA:

Blank space - compound analyzed for but not detected

0 - analysis did not pass EPA DA/OC requirements

J - compound present below specified detection limits,  
value is an estimateB - compound found in laboratory blank as well as the sample,  
and indicates possible/probable blank contamination

100100

**REFERENCE 10**

**100101**

# DUTCHESS COUNTY HEALTH DEPARTMENT

## MEMORANDUM

TO: Mr. Henry W. Scoralick  
 FROM: D. Ruff  
 SUBJECT: Surico Refuse Disposal Site  
           T. Amenia  
 DATE: October 26, 1970

On October 22, 1970 between 2:00-2:30 p.m., I conducted an inspection at the above noted facility. All refuse was deposited in an area approximately 50' wide and 20' deep. Operation appeared to be orderly and covering and compacting was done satisfactorily. Mr. Surico questioned if covering could be done every other day and I stated it had to be done every day.

I did not observe anywhere where industrial wastes were dumped into or near surface waters. On the upper level at the south end are stored several hundred barrels of industrial wastes and covering an area of one acre. Some barrels had been punctured with the resultant discharge of chemicals upon the surface of the ground. Mr. Surico claimed that this was the result of vandalism. He also claimed that some spillage was due to barrels falling off of fork lift. The industrial waste on surface of ground was a brownish oily, black oily, bluish and reddish brown liquid plus a white powder. The following names of companies and contents were observed on barrels:

- |  |                                 |
|--|---------------------------------|
| 1. Remington Rand Electric Shaving Div.<br>60 Main Street<br>Bridgeport, Connecticut         | Crystoton                       |
| 2. U. S. Polymeric   | P.F. Etchant<br>Ferris Chloride |
| 3. ALRAC Div. Radiation Research<br>649 Howe Street (P.O. Box 2109)<br>Stamford, Connecticut | 2 Pyorrolidine                  |
| 4. The Hubbard Hall Chemical Co.<br>Waterbury, Connecticut                                   | Mineral Spirits                 |

Mr. Surico stated that chemicals are pumped out of barrels and shipped to New Jersey. Empty barrels are sold if not damaged. If damaged, barrels are crushed and buried.

In the summer, oil was used on entrance road to settle dust. There is a remote possibility that during a heavy rain some of this could have run off into swamp at north end. I could see no trace of chemicals in swamp areas. Mr. Surico claims all chemicals will be removed from site by November 1, 1970 and that business discontinued.

DTR/aed  
 HD ADM

100102

**REFERENCE 24**

**100103**

MEMORANDUM

August 26, 1992

CONTROL  
HAZARDOUS  
WASTE  
REGULATION

TO: Dan Eaton, Bureau of Hazardous Site Control, DHWR

FROM: Richard Koeppicus, Bureau of Environmental Protection,  
Division of Fish and Wildlife

SUBJECT: Old America Landfill, Site # 314006. Review of  
"Engineering Investigations at Inactive Hazardous  
Sites, Phase II Investigations, Old America Landfill,  
Town of Amenia, Dutchess County, New York" dated June,  
1992.

*Amenia*

I have concluded that there is sufficient information in this document to list this site as an actual or potential threat to the environment. I believe there is sufficient information to warrant a remedial investigation i.e., the site should have class 2 status. I do not think it is necessary to do the additional step recommended on p3-22 by LMS to determine the classification of this site.

My conclusion is based on the data gathered to date that showed 15 of 20 soil samples had PCB levels from 2.3 to 250 mg/kg, 1 of 5 locations of surface water samples (AMSW-03) had a PCB level of 0.060 ug/l and 3 of 5 sediment samples had PCB levels from 0.510 to 5.20 mg/kg. These levels show widespread contamination and are of significance to wildlife.

*Richard Koeppicus*  
Supervising Fish and Wildlife Ecologist

RK:rd

cc: J. Cooper  
B. MacMillan

K65.mem/rd26

100104

**SUPERFUND STANDBY PROGRAM**  
**New York State**  
**Department of Environmental Conservation**  
**50 Wolf Road**  
**Albany, New York 12233-7010**

**TEST PIT INSTALLATION REPORT**  
**OLD AMENIA TOWN LANDFILL SITE**

**Site No. 3-14-006**

**Work Assignment Number**  
**D003060-21**



Prepared by

**TAMS CONSULTANTS, Inc.**

The TAMS Building  
655 Third Avenue  
New York, NY 10017-5617

**OCTOBER 6, 1998**

**100105**



**TEST PIT INSTALLATION REPORT  
OLD AMENIA TOWN LANDFILL SITE  
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**APPENDICES**

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## 1.0 INTRODUCTION

TAMS Consultants, Inc., under contract to the New York State Department of Environmental Conservation (NYSDEC), Superfund Standby Contract (D003060) performed an Immediate Investigation Work Assignment (IIWA), (WA#D003060-021) at the Amenia Town Landfill, Site # 3-14-006, in the Town of Amenia, Dutchess County, New York. The investigation required the excavation of test pits/trenches throughout the landfill to determine the presence or absence of drums suspected to be buried at the Site.

The excavation of the test pits was performed by Environmental Products and Services (EPS), of Newburgh, New York, as a subcontractor to TAMS. EPS supplied the necessary equipment, labor, and health and safety equipment needed to complete the test pits/trenches.

## 1.1 SITE DESCRIPTION AND SURROUNDINGS

The Old Amenia Town Landfill Site is located on the west side of Route 22 in the Town of Amenia, Dutchess County, New York (Figure 1; NYSDEC Site #3-14-006). Except for a period between the end of 1968 and April 1971, the town used the 10 acre site as a municipal dump from the late 1940s until 1976. The northern portion of the site, currently owned by Mr. Karl Saliter of Sharon, Connecticut, is occupied by the Sharon Oil & Gas Company fuel storage enclosure, which consists of a number of above ground storage tanks within a fenced, bermed area. Mr. John Segalla of Amenia is the present owner of the southern portion of the site. With the exception of a small helipad and paved access road, the southern portion is, for the most part a well-graded, maintained, grassy area.

Fill material such as broken glass, scrap metal, tires, old appliances and empty drums are visible in a few areas around the site.

## 1.2 SITE HISTORY

During the period of operation of the site as a landfill, the ownership of the property changed several times. The Town of Amenia rented the property from William and Mary Murphy for disposal of municipal wastes from approximately 1947 until December 1968, when the property was sold to Salvatore (Ben) Surico. The town discontinued dumping at the site and opened an emergency disposal area on the property immediately north of the site.

Industrial wastes were known to be present at the site during the time Mr. Surico operated the landfill, from 1969 until April 1971. Dutchess County Department of Health (DCDOH) inspection records, a local newspaper article, and an aerial photograph of the site dated April 1970 confirm the presence of a large number of 55-gal drums stored in a bermed area at the site. Industrial wastes were reportedly removed from the barrels and transported off-site in tanker trucks; the empty drums were sold or crushed and buried on-site. Local residents, however, noted oil on the surface of the water

in the nearby wetlands area and oil-like odors emanating from the site. In addition, DCDOH inspection reports document that industrial wastes were leaking onto the ground surface from barrels stored at the site.

A more detailed discussion of the site operations and history can be found in the April 1993 "Phase II Investigation Report", prepared by LMS Engineers on behalf of the NYSDEC.

In 1971 the Town of Amenia assumed responsibility for the operation of the landfill when Mr. Surico filed for bankruptcy. The town continued to operate the landfill for the disposal of municipal wastes until it was officially closed on 16 April 1976. Closure of the dump involved application of a soil cover of unknown depth and grading of the site.

The landfill was listed with the New York State Department of Environmental Conservation (NYSDEC) as a Reported Hazardous Waste Site in 1980 based on a site inspection that revealed evidence of drums in the southwest corner of the site in an area with no vegetative growth. The U.S. Environmental Protection Agency (EPA) identified the Old Amenia Landfill as a Potential Hazardous Waste Site in 1981.

### 1.3 PREVIOUS STUDIES

A Phase I investigation in August 1986 concluded that a Phase II investigation was needed to confirm the presence of hazardous wastes at the site and to determine whether any contamination present poses a significant threat to human health or the environment. In 1987 EPA collected a soil sample along the western side of the landfill during a limited field investigation. The sample contained 170 ppm of polychlorinated biphenyl (PCBs) (Aroclor 1248).

In April 1993 the Phase II Investigation was completed, which consisted of a geophysical survey; a soil gas survey; and surface soil, surface water and sediment sampling and analysis. Areas with high magnetic anomalies were delineated as a result of the geophysical survey. These areas correlated with many high concentrations of VOCs found during the soil gas survey. Buried drums of wastes could be responsible for these conditions. In addition, PCBs, ranging from 2.3 to 250 mg/kg, were found in surface soil samples but only low concentrations of VOCs were found. The surface water/sediment samples also contained low concentration of VOCs and SVOCs. Other compounds of concern found on site include vinyl chloride, benzene, toluene, TCE, and manganese. One of the recommendations of the Phase II study was to excavate test trenches to verify the presence of buried drums.

During the beginning of September, 1998, NYSDEC excavated test pits on-site to verify the presence or absence of buried drums on-site. A description of the field work performed and what was found on-site is the subject of this report.

## 2.1 TEST PIT PROCEDURE

Field work took place on-site from September 8, 1998, to September 15, 1998. The test pit locations (Figure 2) were laid out by NYSDEC and TAMS personnel on September 8, 1998. TAMS and EPS mobilized their field equipment and began the test pit excavations on September 9, 1998.

The installation of the test pits was performed in accordance with the Work Plan and the Health and Safety Plan that were prepared by TAMS. Prior to the start of the test pit excavation, a health and safety briefing was held on-site. Items discussed included the proposed excavation procedure; communications and hand signals; levels of protection and action levels.

Before the start of each test pit, a Photoionization Detector (PID) or Flame Ionization Detector (FID) was used to obtain background readings. The FID was used on September 9 as it was raining, and the PID does not work properly when there is high humidity present. The disadvantage with using the FID is that it detects methane which is usually present in landfills generated as a byproduct of decomposition. An exclusion zone was set-up by TAMS personnel using caution tape at a distance of twenty-five feet from the test pit in all directions. A decontamination station was placed at the entrance to the exclusion zone.

Test pits #1 and #2 were started in Level B, based on previous elevated soil gas readings. The remaining pits were excavated in Level C. The Site Safety Officer (SSO) set-up within each exclusion zone with the PID meter, a Lower Explosive Level (LEL) meter, a Combustible Gas Indicator, and a MiniRad meter. Each location began as a four foot wide trench, with EPS achieving the maximum depth from the start, and then progressing the length of the test pit.

EPS initially mobilized a John Deere 410D Extend-a-hoe backhoe to the site. However, the maximum excavation depth achieved by this machine was 12 feet below ground surface (bgs). However, as waste thickness was much greater than 12 feet, it was agreed by TAMS and NYSDEC personnel to replace the backhoe with an excavator. On the second day of field work, EPS mobilized a John Deere 590D Excavator with a reach of 20 feet. Those test pits completed on the first day with the 410D were re-excavated with the new excavator.

EPS laid out 10-mil plastic sheeting on the ground adjacent and upgradient from the test pit, on which the excavated soil was placed. The operator would allow the SSO and NYSDEC personnel to take readings from the pit and debris pile, and to take a closer look at objects removed from the hole. If a drum was encountered, readings and samples (if possible) were taken. The excavation was then expanded around the drum to determine the number and location of additional drums.

Once the test pit was completed to an acceptable depth and length with soil samples (if any) collected and photographs taken, EPS would backfill the garbage/ debris and soil removed, along with the plastic it was staged on, into the excavation. Personal protective equipment used during the field work (such as gloves and tyvek coveralls) was placed in a plastic bag and backfilled into the excavation. The bucket of the machine was used for compaction, and was cleaned between each test pit. On the last day of field work, EPS spread 6-12 inches of topsoil on each test pit, and TAMS

personnel spread seed, fertilizer, and straw mulch over each location. The test pit excavations were marked with wooden stakes for future reference.

## 2.2 TEST PIT DESCRIPTIONS

### Test Pit # 1

Test pit # 1 was started on September 9. This pit was eight feet wide by thirty feet long, located in the northwest corner near Sharon Oil. This work was done in Level B personal protective equipment. There was only about 6 inches of bony fill (sandy gravel) material before glass bottles were found. This layer, sandy gravel, extended to about 3 feet in depth. At about 2.5 feet bgs there was a reading of 40ppm in the test pit. The garbage layer extended from the 3-foot depth to the 7 foot depth bgs. At about 4 feet bgs, there was a FID reading of 100ppm. A strong methane odor was detected between 4-5 feet bgs. After the garbage layer, there were another 2 feet of fill material. The rest of the excavation, from 9 to 12 feet bgs, contained garbage. A newspaper dated 1971 was found in the 7-8 foot level. There were a lot of small pieces of metal throughout the excavation, but no evidence of drums. The high readings on the FID meter could be attributed to the presence of methane gas. The depth of the test pit was 12 feet when using the backhoe. The hole was backfilled overnight for safety reasons.

On September 10, an excavator was used to complete the excavation of the test pit. Based on the readings from the previous day, and the fact that drums were not found, the SSO decided to downgrade the level of personal protective equipment from Level B to Level C. NYSDEC personnel decided that a small depression on the south west corner of test pit # 1 should be investigated. This excavation was perpendicular to the first hole, and only 4 feet wide by 15 feet long. A metal bedframe was found within 1 foot of the ground surface. A crushed 55-gallon drum was found at about 10 feet bgs. At the south east end of this excavation, at about 12 feet bgs, two PID readings of the soil in the excavator bucket were taken. They were 45 ppm and 100 ppm, respectively. A solvent type smell was also present. NYSDEC personnel took soil samples from this depth. Another bucket from the 14-foot level had a reading of 30 ppm. A crushed drum was also found at this depth. The maximum depth achieved for this test pit was 17 feet. PID readings at this level were 40 ppm and 140 ppm. NYSDEC personnel take a soil sample from this depth. Readings during sampling were between 100 and 300 ppm. Garbage was present in the bottom of the test pit. Upon completion of sampling, EPS backfilled the test pit as described previously.

### Test Pit # 2

Test pit # 2 was started on September 9, and performed in Level B personal protective equipment. This test pit was located east of pit # 1, along the Sharon Oil property. The first three feet of this excavation were the same bony fill material found previously, however, there was no garbage in this layer. At the northeast end of the excavation, on the north side, a 55-gallon drum was located about 10 inches bgs. It was empty and partially crushed. Since the test pit was going to be reopened the

next day, the drum was left alone. There was also a 5-gallon pail found at about 3 feet bgs located in the southern end of the test pit, with a FID reading of 8 ppm. A 2-gallon pail was found at 4.5 feet bgs, with an oily substance on it. There were no elevated readings on FID. Very little garbage/debris was found until the 5 feet bgs, where some glass, paper, plastic, and wood were excavated. A small bike frame was found at 7 feet bgs. At 9 feet bgs, a metered glass bottle and a bottle with a septum top were found. It was assumed that it was an Intravenous Bottle from a hospital. A large piece of metal sheeting was also found at this depth. In the southeast end of the excavation, garbage and debris were found within 1 foot of the ground surface. The test pit was backfilled overnight.

On September 10, re-excavation began with the excavator, and was completed in Level C personal protective equipment. This test pit was centered around the drum found the previous day. The test pit was expanded to the north by 12 feet, at the northeast end. A metal bed frame and a 5-gallon pail were found within 2 feet horizontally of the drum found the previous day. Another 55-gallon drum was located approximately 8 feet bgs and directly below the first drum. The PID readings were 11 and 6 ppm. This second drum which was crushed and empty had "Remington Rand Shaver Division, 60 Main St., Bridgeport, CT," written on the top of the drum. "US Product", "09934", and "Pittsburgh" was also written on the lid. Maximum depth achieved was 17 feet bgs. NYSDEC personnel then took soil samples from this depth. Garbage was present in the bottom of the test pit. EPS backfilled the debris and soil into the excavation as described previously.

### **Test Pit # 3**

Test pit #3 was completed on September 10. This excavation was started in Level B, but completed in Level C. EPS began excavation with the backhoe, and switched to the excavator once it arrived on-site. The first 3 feet of the pit were bony fill material. A washing machine was found at about 3.5 feet bgs. The garbage layer extended from 3 feet to about 5 feet bgs, then a 2-foot fill layer, with garbage down to 10 feet bgs. A newspaper dated 1970 was found at 7 feet bgs, and an automobile gas tank was found at about 9 feet bgs. At this point EPS switched over to the excavator. There was another 2-foot fill level at 11 feet bgs. Garbage extended from this point down to the bottom of the test pit (19 feet bgs). A 5-gallon oil container (Texaco) was found at 18 feet bgs, along with two newspapers dated 1968 and 1970. NYSDEC personnel took soil samples at 19 feet bgs. Upon closer inspection of the debris pile, a syringe was found: depth was unknown. EPS backfilled the test pit as described previously.

### **Test Pit # 4**

Test pit #4 was completed on September 11, in Level C. This excavation was located south of pit #1, about 125 feet south of the Sharon Oil property. There was about 2 feet of bony fill material, then garbage down to 15 feet bgs, then fill material to 17 feet bgs. Several tires were buried in this test pit, along with small pieces of metal such as mufflers, pipe, etc. Also, two hot water heaters were found at the 8-foot level. All readings taken with the PID were 0 ppm at this excavation. NYSDEC personnel did not take any samples from this test pit; EPS then backfilled the test pit as described previously.

### Test Pit #5

Test pit #5 was completed on September 11, in Level C. This test pit was located in a large depression about 45 feet southeast of #1, and 50 feet west of the Helicopter pad. It was approximately 10 feet wide by 25 feet long. Garbage/debris was found within 1 foot of the ground surface. A car bumper was found at 2 feet bgs. About 25-30 garage receipts from the Sharon Garage, dated 1966 were found at 6 feet bgs. The debris layer extends down to the 6 foot level bgs, with fill material for another 5 feet. A small layer of debris, about 2 feet thick, was found containing glass, wood, metal scraps, paper, plastic, and another IV bottle. NYSDEC personnel took a soil sample from the 12 foot level bgs, which had a PID reading of 2 ppm. The rest of the excavation consisted of a sandy material. EPS excavated this test pit to 17 feet bgs. EPS backfilled the test pit as described previously.

### Test Pit #6

Test pit #6 was completed on September 11, in Level C. This test pit excavation was 5 feet wide by 25 feet long, and was located at the base of the small rise about 80 feet south of the Helicopter pad. There was 2 feet of the bony fill material on top, then 6 feet of garbage, and another 6 feet of gravelly sand material to the bottom of the test pit. The garbage found at the 2-4 foot level consisted of bags of leaves, paper, plastic, glass, and wood. At 4 feet bgs, the soil color changed to a gray color for about 8-10 inches, with a PID reading of 1 ppm. A newspaper was also found at this depth, dated 1972. NYSDEC personnel took a soil sample at the 9-10 foot level. Since the material at the bottom of the hole contained no garbage, it was decided to stop at the 13-foot level. EPS backfilled the test pit as described previously.

### Test Pit #7

Test pit #7 was completed on September 11, in Level C. This excavation was located on the small rise, situated north-south, about 70 feet west of the large berm along Route 22. There was only about 10 inches of the typical bony fill material before garbage/debris was found. The garbage layer extended down to the 19 foot level bgs. The garbage consisted of paper, plastic, wood, and glass. It appeared slightly damp, possibly from surface runoff infiltration from the slope. A newspaper was found at the 8-foot depth, dated 1974. PID readings at this depth were 2 ppm. A large steel pressure tank, 36 inch diameter, 6 feet tall, was found at the 14-foot level. PID readings were 4 ppm from the soil at this level. Another 1974 newspaper was found at the 18-foot level. There was an abundance of mimeograph (purple) paper found throughout this excavation. NYSDEC personnel took a soil sample from the 19 foot level bgs. EPS backfilled the test pit as described previously.

### Test Pit #8

Test pit #8 was completed on September 11, in Level C. This excavation was located on the flat surface above the small rise, about 50 feet east of the woods, and 60 feet south of the edge of the rise. There was less than 1 foot of cover material at this location. A car bumper was found within the top foot of material. A large boulder, 4 foot by 6 foot, was found at about 2 feet bgs. The garbage layer extended for 3 feet, then a 5-foot layer of fill, then garbage to the bottom of the pit. A newspaper dated 1975 was found at the 12 foot level bgs. The soil from 12-14 feet was reddish in color, most likely from bricks. Readings from the PID were 0 ppm throughout the excavation. EPS excavated this test pit to 17 feet bgs. NYSDEC took a soil sample from the bottom of the test pit. EPS backfilled the test pit as described previously.

### Test Pit #9

Test pit #9 was completed on September 14, in Level C. This area was located on the west side of the access road to the adjacent property to the south. Five test pits were excavated in this location. EPS cleared an area about 25 feet wide by 140 feet long to begin this excavation. Starting in the southwest corner, in what appeared to be a fill in swale, there were 5 visible drums. No elevated PID readings were detected prior to the excavation of the test pits. During the clearing of the brush, another 7 drums were found partially buried.

The initial excavation (Test Pit #9) was located 10 feet east of the 5 visible drums. This test pit was 4 feet wide by 6 feet long. At about 2 feet bgs, a small plastic lined metal container containing a white powder was found. No markings were visible on the container. No elevated PID readings were detected. At about 3 feet bgs, the excavator ripped into a metal container, approximately 30 gallons, containing the white powder. It gave off a pesticide type odor. Many smaller metal containers and possible other drums were also buried here. Work was then stopped and it was decided to overpack this drum and the spilled white powder. This proved difficult, because during the overpacking process, the dry powder became airborne. It was agreed between TAMS and NYSDEC personnel to lay plastic sheeting over the white powder in the excavation and to backfill the test pit. White powder that was already excavated was placed in the 85-gallon overpack. NYSDEC personnel took a sample of the white powder. At 3 feet bgs a top to a 55-gallon drum was also found that read "Geigy Agricultural Chemicals New York", "267334 C/1", "5#", "Made in Switzerland". Written in black marker was "10/3/67" and "#9005".

The next test pit excavation (Test Pit #9A) was located in the area of the 5 visible drums as described previously. One of the drums contained a solid cloudy substance. The material was broken into small pieces using a hammer and sampled by NYSDEC. This test pit was 4 feet wide, by 8 feet long. No elevated PID readings were detected. At 1.5 feet bgs, a drum that initially appeared to be empty gave a HNu reading of 100 ppm. It contained an oily, black liquid. NYSDEC personnel took a sample of the stained soil in the drum. This material is believed to be a solvent as the label that was placed on the sample jar using a Sharpie permanent marker became faded when the oily substance contacted the soil jar. EPS tried to overpacked the drum and stained soil. The stained soil was



overpacked but the drum would not fit inside the 85-gallon overpack. Instead, the visible contents of the drum were removed by shovel and placed in the overpack. The sidewalls of this test pit contained drums. Another crushed drum gave a HNu reading of 20 ppm. The PID gave a constant reading of 15 ppm in the test pit excavation. EPS backfilled the test pit as described previously.

Test Pit #9B was dug approximately 30 feet to the north of Test Pit #9A. This test pit was 4 feet wide by 25 feet long by 4 feet deep. The soil from this test pit was sand with lots of roots. No drums were found in this test pit. No elevated PID readings occurred.

Test Pit #9C was dug approximately 15 feet to the north of Test Pit #9B. This test pit was 4 feet wide by 25 feet long by 4 feet deep. The soil from this test pit was sand with lots of roots. A crushed drum was found near the ground surface in this test pit. No elevated PID readings occurred.

Test Pit #9D was dug approximately 20 feet to the north of Test Pit #9C. This test pit was 4 feet wide by 6 feet long by 4 feet deep. The soil from this test pit was sand with lots of roots. No drums were found in this test pit. No elevated PID readings occurred.

There was garbage on the surface only between Test Pit #9B & #9C. In addition, several small metal lids were also found in this area. Test Pits #9B, #9C and #9D were backfilled with soil.

Test Pit #9E was located approximately 30 feet north of #9C. A test pit was located here as there was a drum exposed in a berm facing west. This test pit was started about 10 feet north of the exposed drum in the small rise, at the northern end of the cleared area. Before digging, a hole was found on the east side of the rise where four more drums could be seen. The PID reading from the exposed drum was 400 ppm (inside). A drum was also found on the south side of this excavation. It was decided not to dig any deeper for fear that exposed drums would roll down the hill toward the swamp. This last drum contained an orange/red rubbery substance, however, no elevated PID readings were detected. A drum was located about 30 feet down the hill with a reddish/black substance, but much harder than the other material. EPS excavated the area out to about 20 feet to the east to find the extent of the drums. The last pit was dug on the south end to find the extent of drums there. The total dimensions of this area were 18 feet wide, by 25 feet long, with drums stacked both singly and doubly. Two more drums were found on the south end, and gave HNu readings of 30 and 12 ppm, respectively. One of the drums contained a thick, amber liquid with a PID reading of 4 ppm. NYSDEC personnel took a sample of this liquid. It is estimated that there are at least 10 - 12 drums buried in this area. This whole area (Test Pit #9E) was covered with 10 mil plastic sheeting and soil.

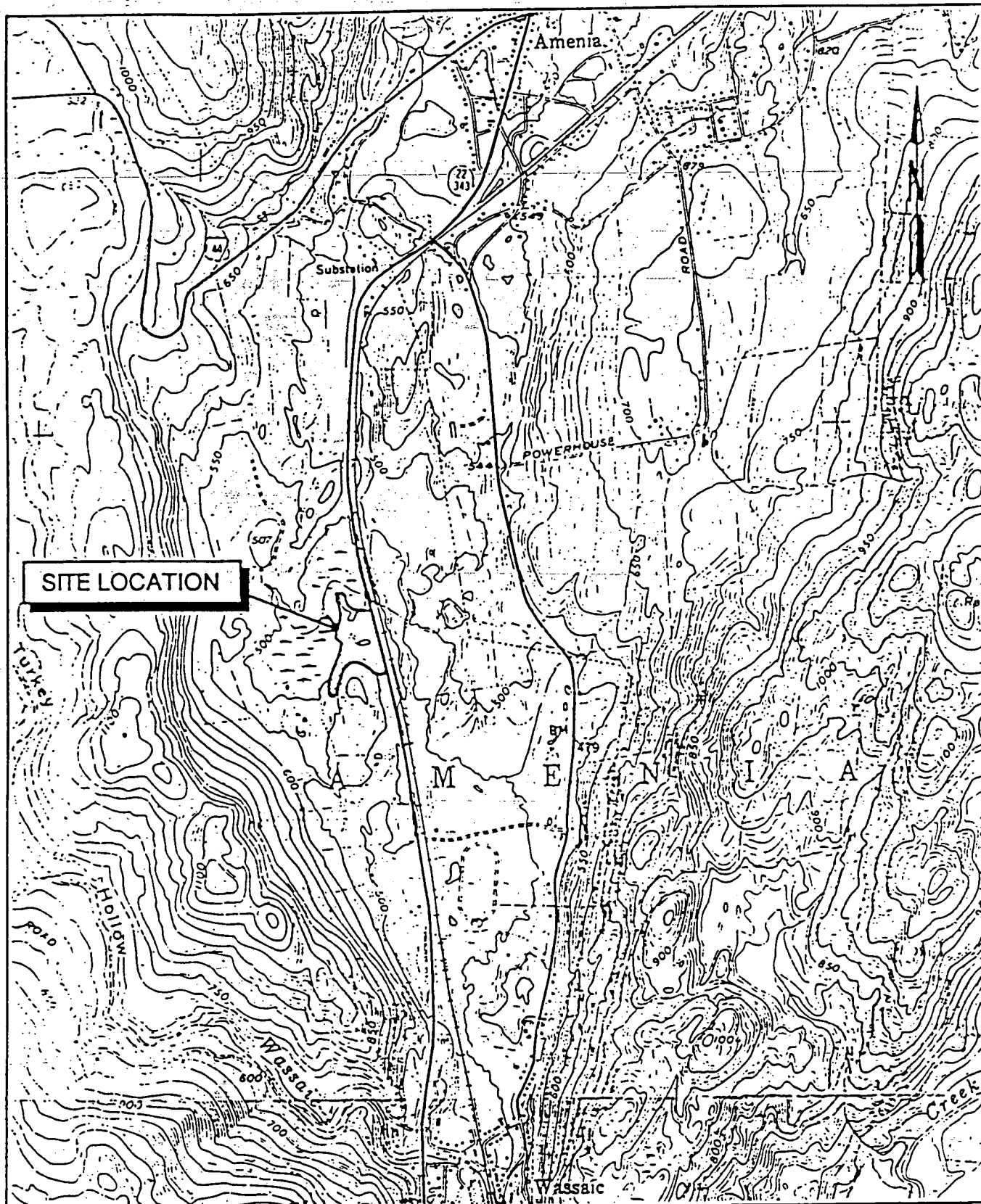
The overpacks from Test Pits #9 and #9A were buried in Test Pit #9A. Test Pits #9 and #9A were covered with plastic sheeting and secured with soil placed on top.

### 2.3 SITE RESTORATION

The test pit excavations and the surrounding areas that were disturbed had a 6-inch to 1 foot layer of imported topsoil placed on top. EPS imported topsoil from F. Palumbo, Dover Plains New York and from Richard Allen Sand and Gravel, Amenia, New York. The topsoil was placed, leveled and compacted using the backhoe. Subsequently, fertilizer and seed were mixed with the topsoil by using a rake. A layer of straw mulch was placed on top surface.

## FIGURES

100116



**SITE LOCATION**

0 1000 2000 ft

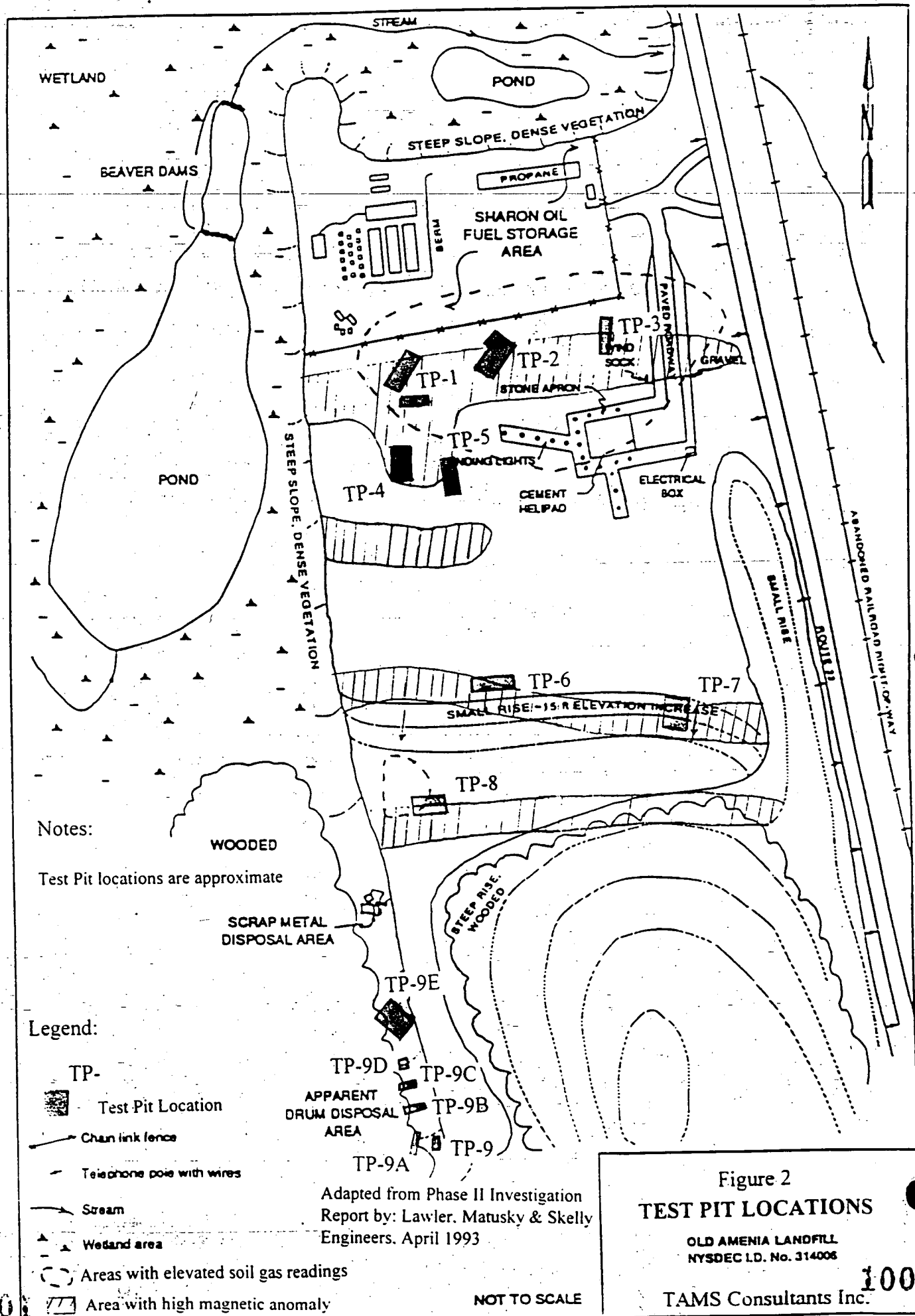
Map source: USGS 7.5 minute Quadrangle map,  
Amenia, NY CT, 1958, photorevised 1984



**Figure 1  
Site Location**

Old Amenia Landfill  
NYSDEC I.D. No. 314006

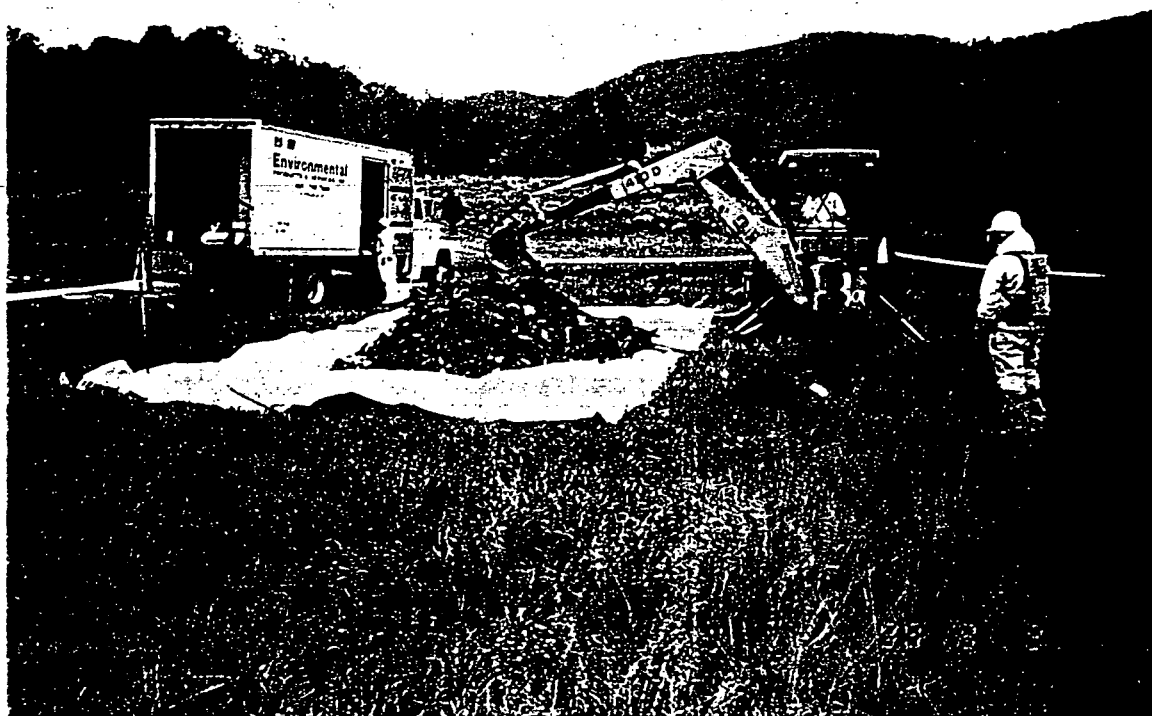
TAMS Consultants Inc.



## **Appendix A**

### **Test Pit Photographs**

100119



Above: Test Pit #1, Beginning Excavation.

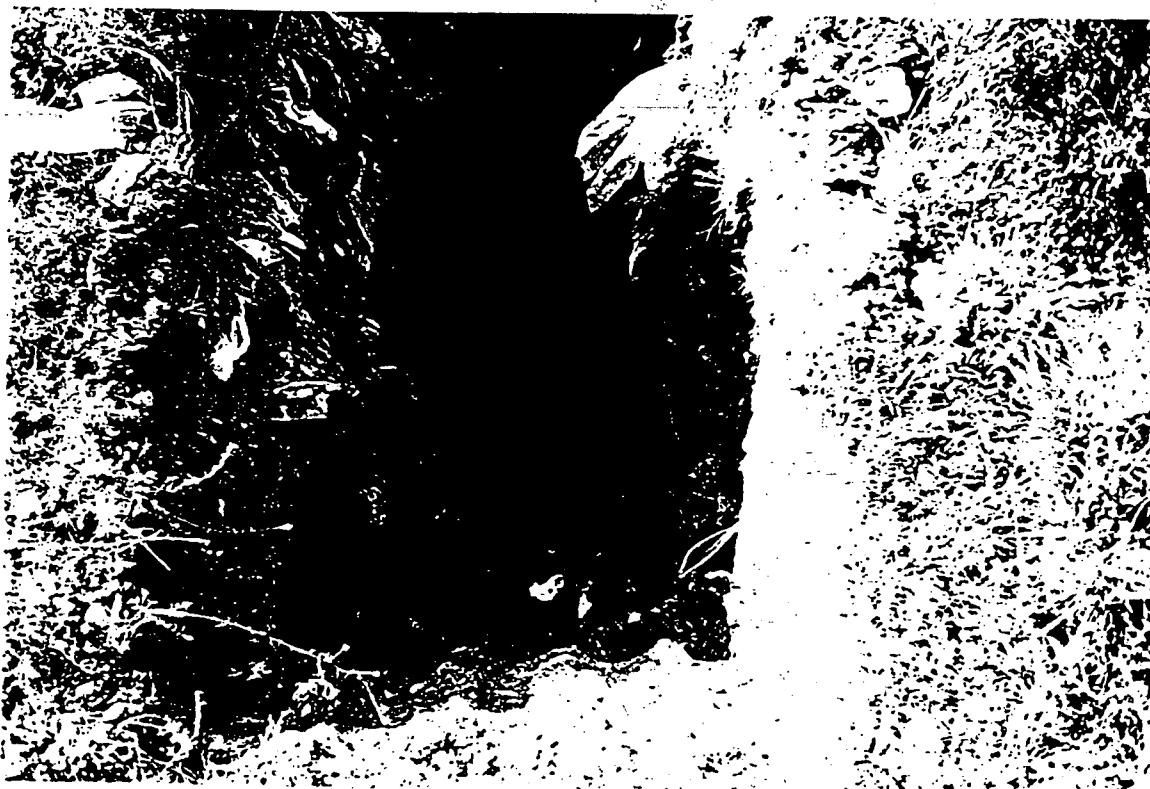
Below: Test Pit #1, North Wall.





Above: Debris Pile From Test Pit #1.

Below: Bottom of Test Pit #1.



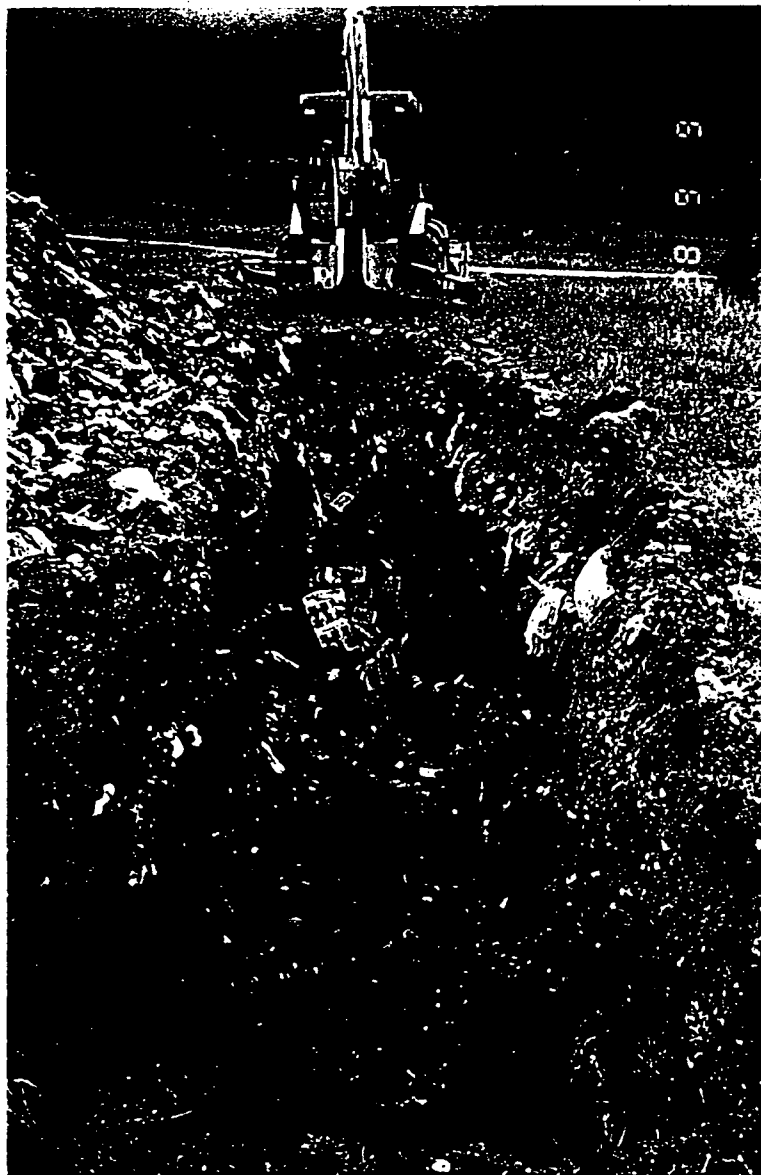




Above: Test Pit #1 After Topsoil, Seed, and Mulch.

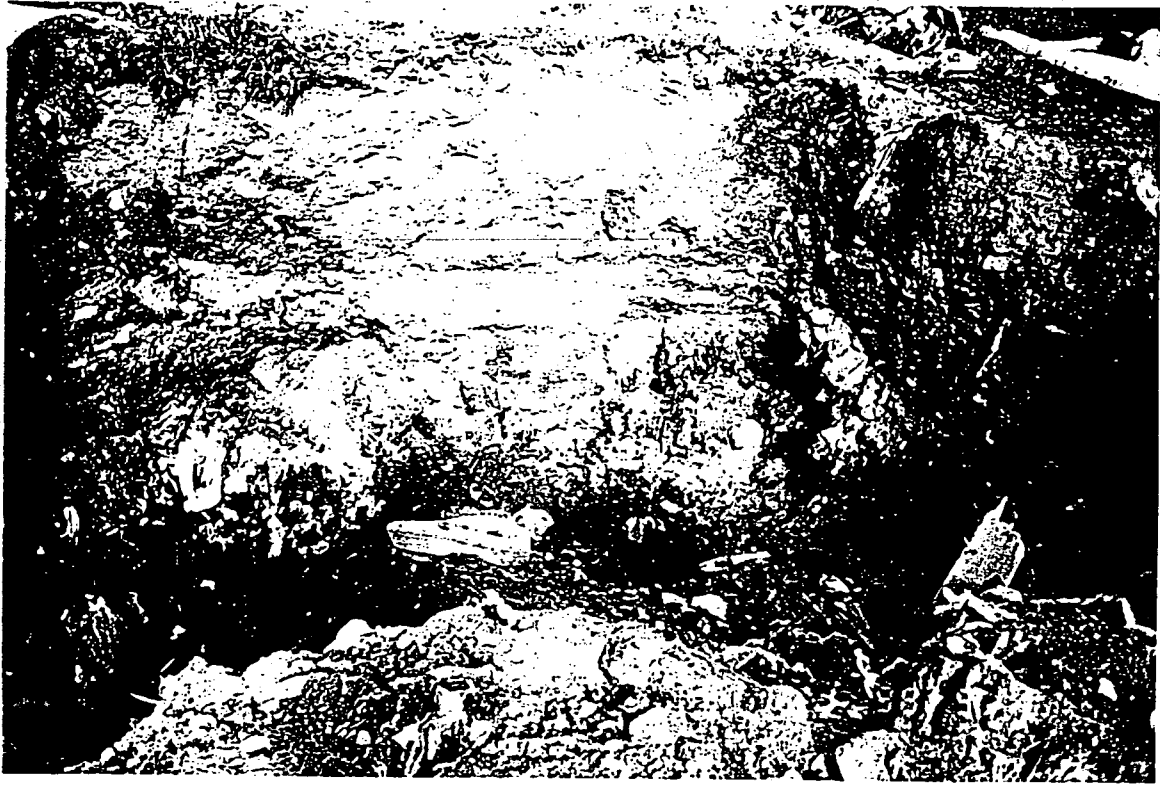
Below: Beginning Test Pit #2.





Above: Facing West, Test Pit #2.

100123



Above: Bottom Of Test Pit #2, Facing North.

Below: IV Bottle and Second Bottle With Septum Top.





Above: Uncovering Drum In Test Pit #2.

Below: Test Pit #2 With Drum In North Wall.





Above: Second Drum In Test Pit #2.

Below: Second Drum With Identification On Top.





Above: Test Pit #2 After Topsoil, Seed , and Mulch.

Below: Beginning of Test Pit #3.





Above: Test Pit #3, Facing South.

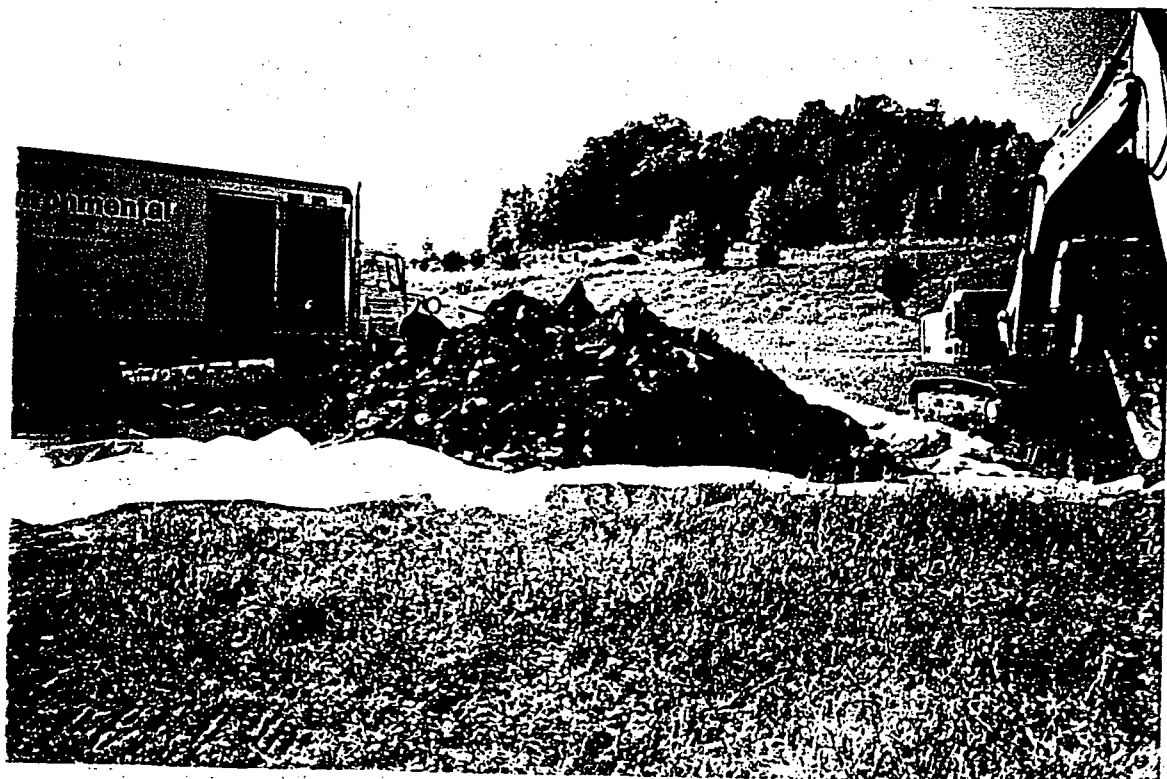
Below: Syringe From Test Pit #3.





Above: Beginning Of Test Pit #4.

Below: Debris Pile From Test Pit #4.



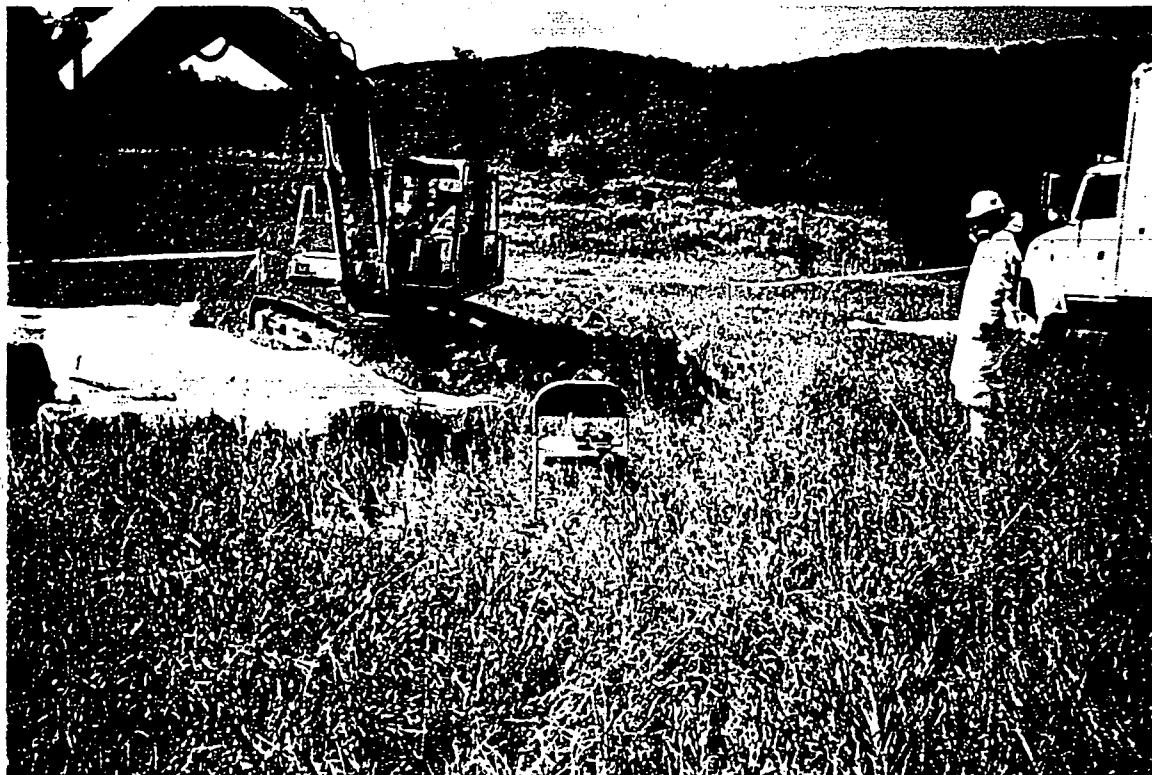




Above: East Wall Of Test Pit #4.

Below: Test Pit #4 After Topsoil, Seed, and Mulch.





Above: Beginning Of Test Pit #5.

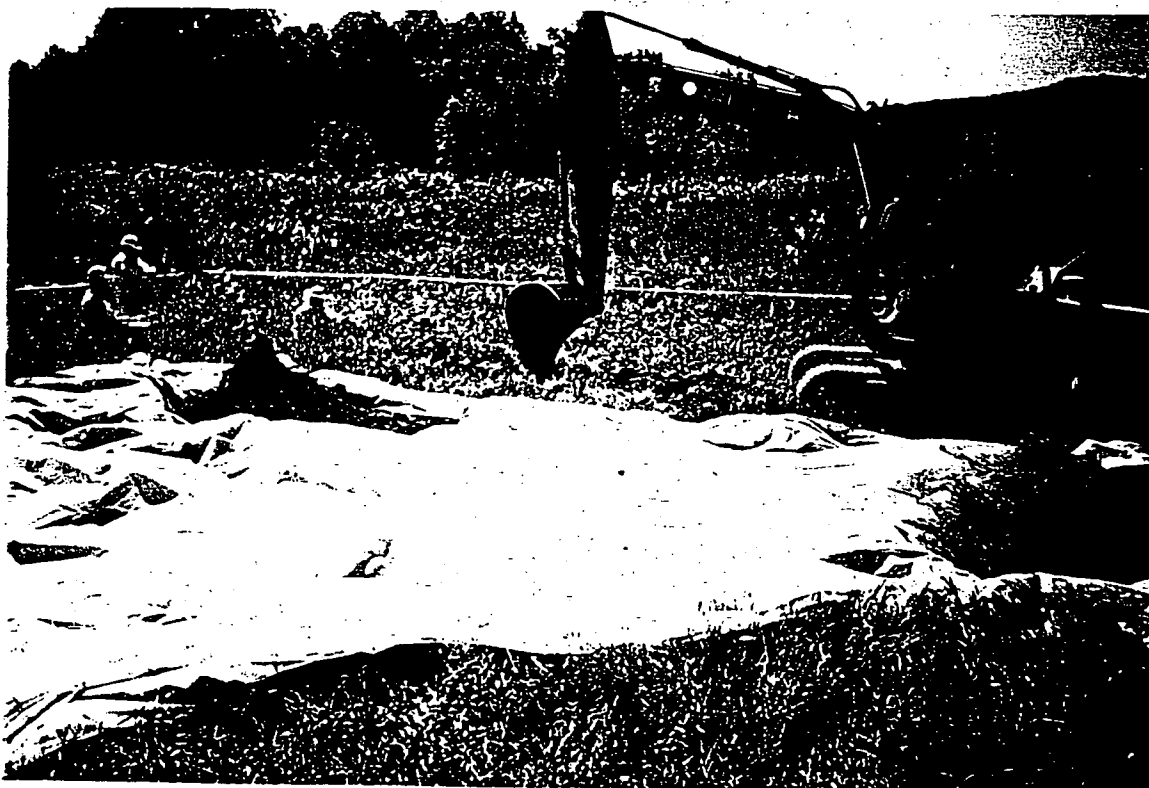
Below: Debris Pile From Test Pit #5.





Above: Facing Southwest, Test Pit #5.

Below: Beginning of Test Pit #6.

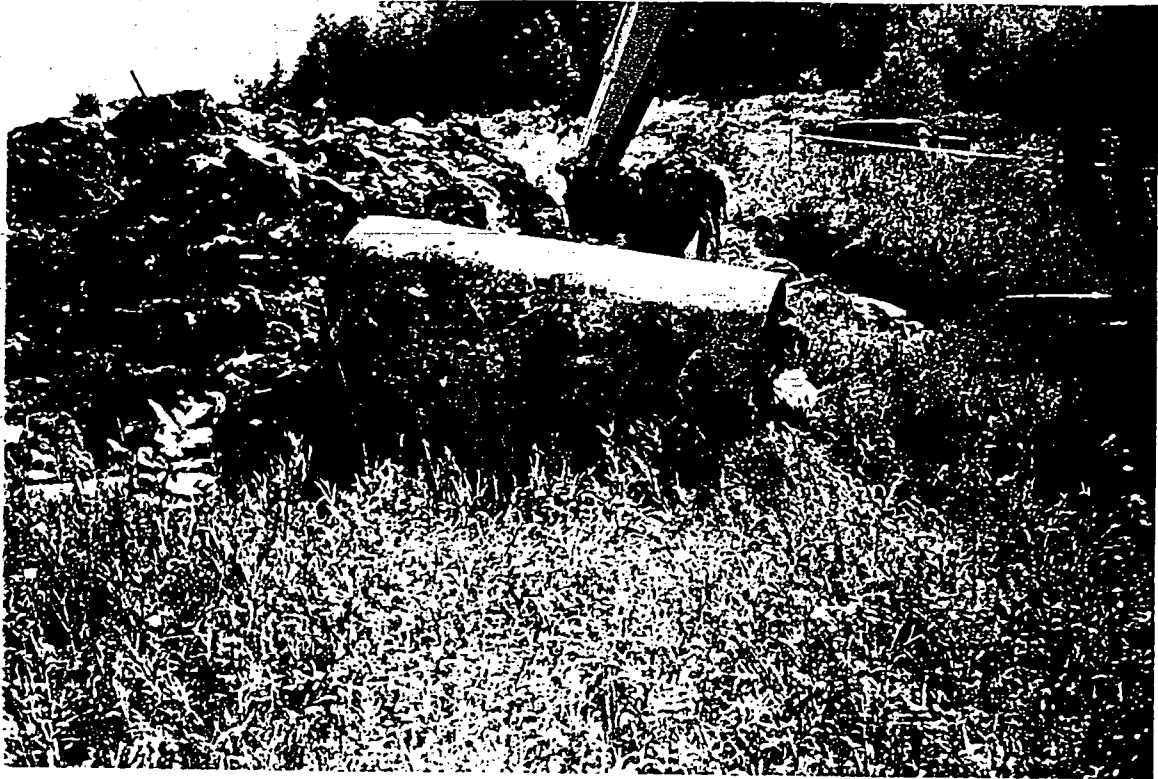




Above: Facing West, Test Pit #6.

Below: Beginning Of Test Pit #7.

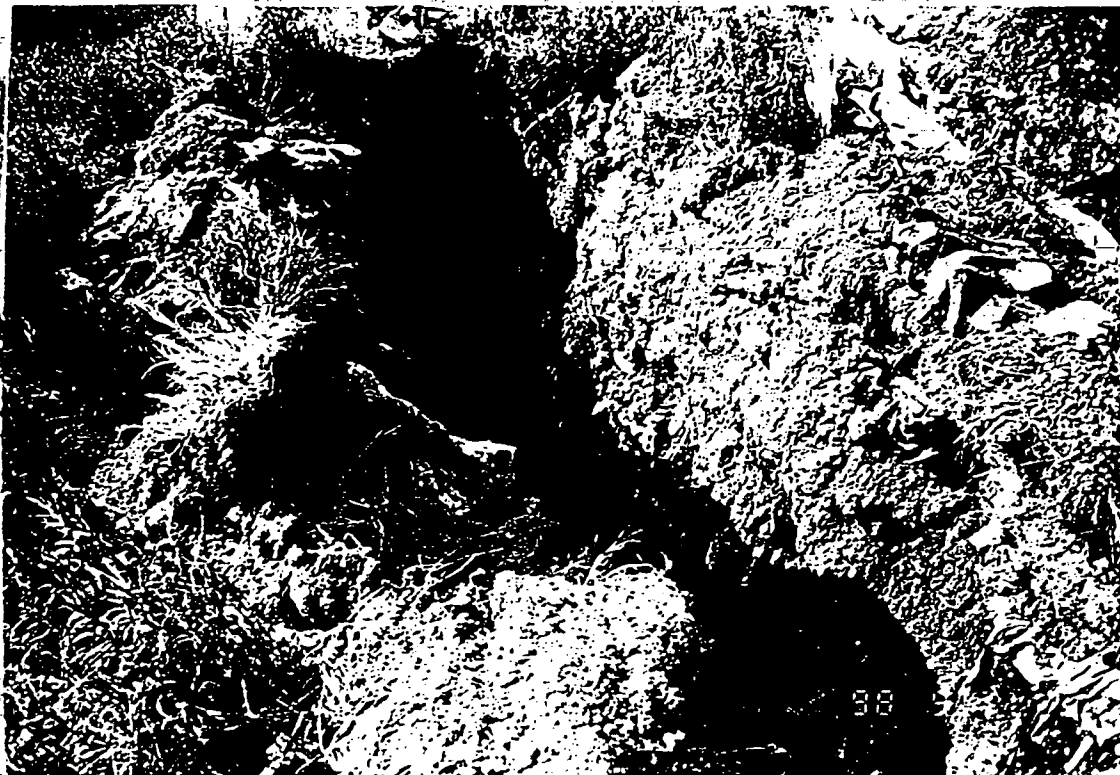




Above: Pressure Tank From Test Pit #7.

Below: Facing North, Test Pit #7.





Above: Facing West, Test Pit #8.

Below: Facing East, Test Pit #8.





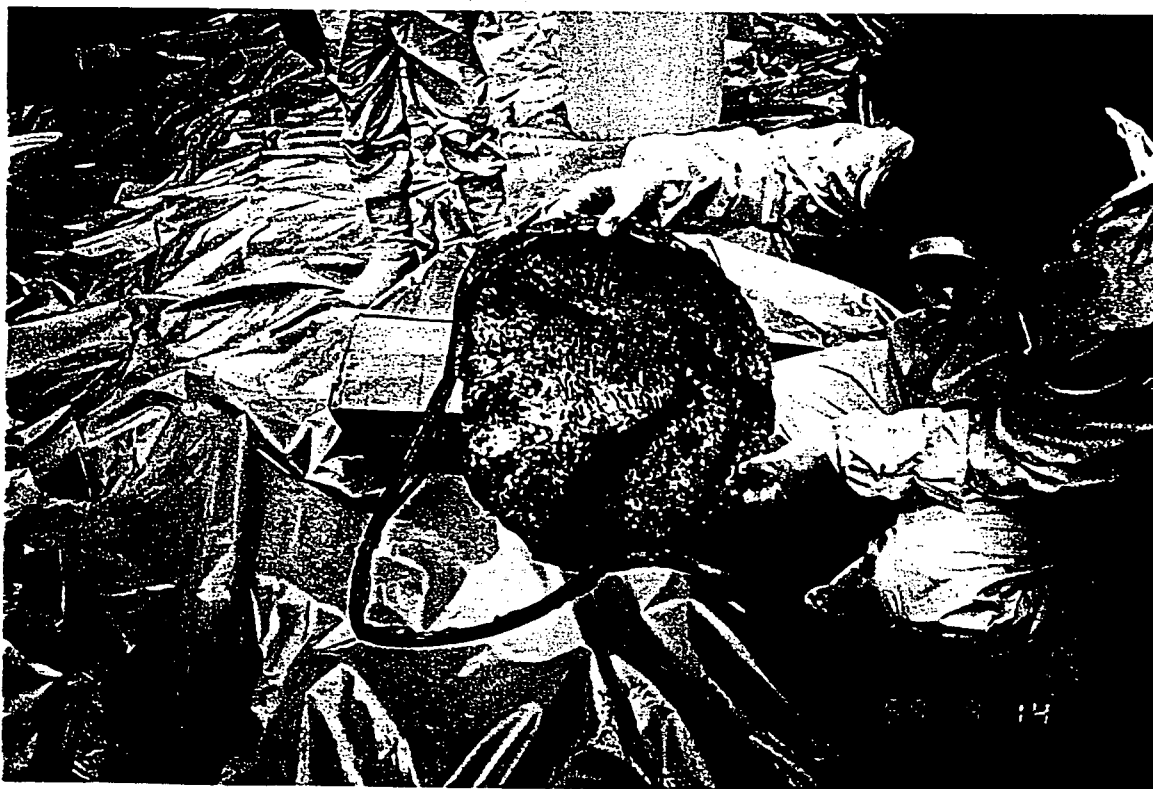
Above: Drum Containing White Powder From Test Pit #9.

100136



Above: Metal Container With Plastic Lining From Test Pit #9.

Below: Drum Lid From Test Pit #9.



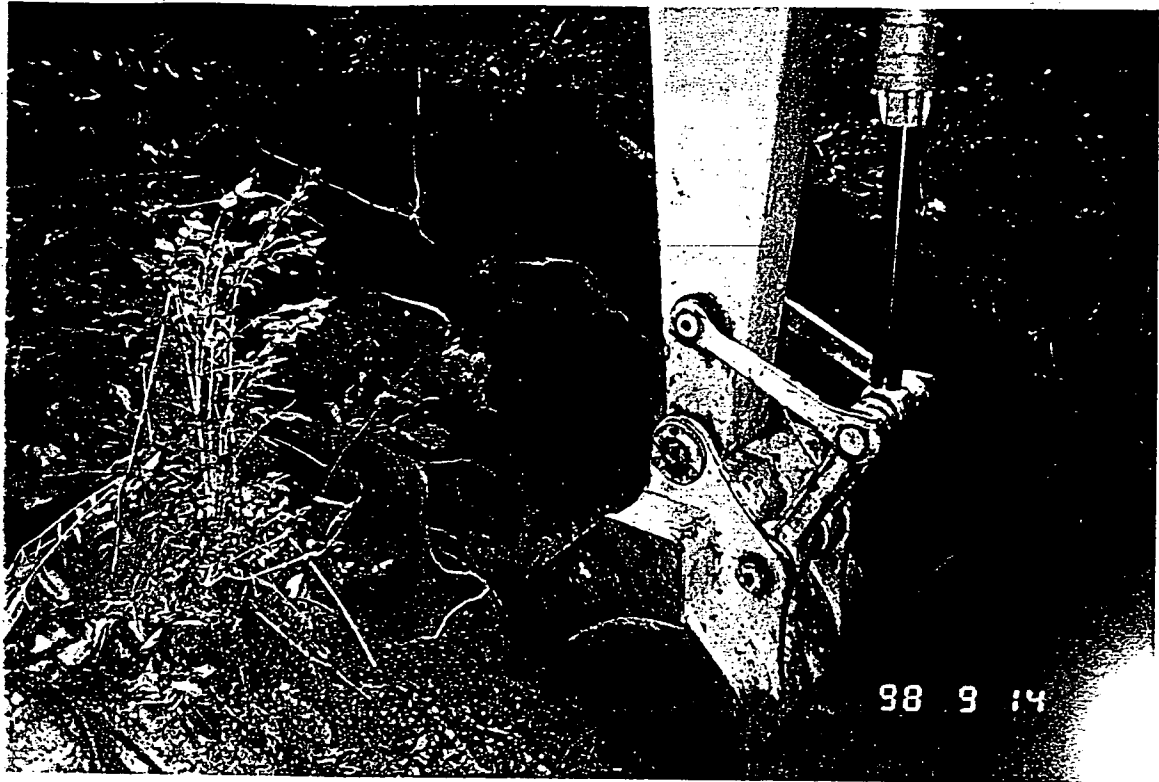




Above: Visible Drums In Southern Corner Of Test Pit #9. ( 9A )

Below: Another Drum From Test Pit #9. ( 9A )





Above: Leaking Drum From Test Pit #9. (9A)

Below: Buried Drums In North Corner Of Test Pit #9. (9A)





Above: Beginning Of Test Pit #9B.

Below: Beginning Of Test Pit #9D.

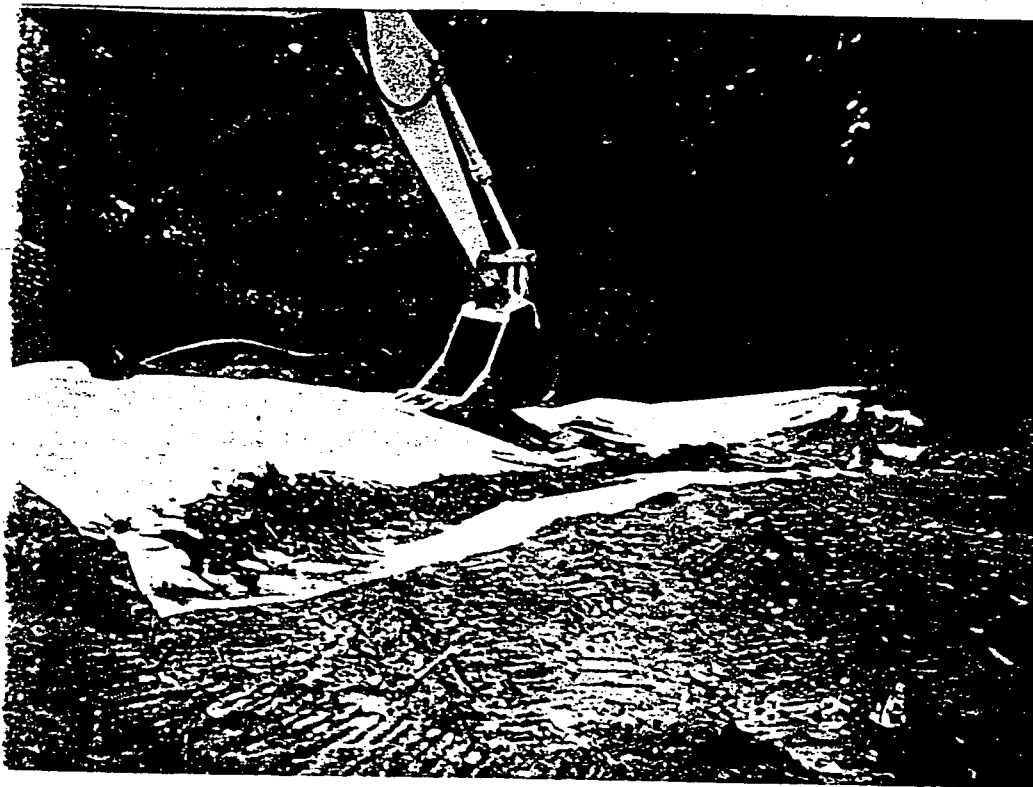




Above: Leaking Drum In North Corner Of Test Pit #9. ( 9E )

Below: Buried Drums In North Corner Of Test Pit #9. ( 9E )





Above: Plastic Placed Over Drums In Test Pit. #9. ( 9 & 9A )

## **Appendix B**

### **Test Pit Logs**

**100143**

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-1

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | DATE: Sept.9-10, 1998          |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 10:00 am                 |
| WEATHER: Rain                | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 30', Width 8', Depth 17'               |                                |

| Depth (ft) | OVA Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES  |
|------------|--------------|--|
| -1         | 0 ppm        | Very bony, gravely fill material, some glass bottles<br>Metal bedframe found (9/10/98)                 |
| -2         |              |  |
| -3         | 40 ppm       | Garbage and debris layer begins  |
| -4         | 100 ppm      | Mostly garbage at this depth, sheets, paper, plastic, bottles  |
|            | 80 ppm       |  |
| -5         | 125 ppm      | Strong methane odor when removing debris   |
|            |              |  |
| -6         | 3 ppm        |  |
|            |              |  |
| -7         |              | Bony fill material begins again, metal lid found<br>Newspaper dated 1971 found                         |
| -8         | 10 ppm       | Large slab of material found, about 5' wide, 6-8" thick, dark gray color, looks like subbase for road. |
| -9         |              | Garbage and debris begin again   |
|            |              |  |
| -10        |              | Crushed 55-Gallon drum (9/10/98)   |
| -11        |              |  |

## Comments

This test pit was started on September 9 with the backhoe. As only 12' depth was achieved, EPS re-excavated the hole on September 10 with an excavator.

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-1

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | DATE: Sept. 10, 1998           |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 1600                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL:                 | Length 25', Width 4', Depth 17'               |                                |

| Depth (ft) | OVA Readings         | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES   |
|------------|----------------------|---|
| -12        | 45, 100 ppm          | Garbage and debris layer continues<br>DEC takes soil sample, very strong, sweet odor. (Test pit completed on 9/9/98). |
| -13        | 120 ppm<br>(Hnu)     |   |
| -14        | 30 ppm<br>(Hnu)      | Crushed drum found.   |
| -15        |                      |   |
| -16        |                      | Garbage and debris layer continues  |
| -17        | 40, 140 ppm<br>(Hnu) | Bottom of hole. DEC takes soil sample, readings between 100-300 ppm from bucket                                       |
| -18        |                      |   |
| -19        |                      |   |
| -20        |                      |   |
| -21        |                      |   |
| -22        |                      |   |

## Comments:

These depths were achieved in the new excavation of TP-1.

\*\* Test pit excavated on 9/10/98 in an adjacent location using an excavator.

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100145



## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-2

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | DATE: Sept. 9-10, 1998         |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 1550                     |
| WEATHER: Lt. Rain            | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 35'. Width 6'. Depth 17'               |                                |

| Depth (ft) | OVA Readings            | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES  |
|------------|-------------------------|--|
|            | 0 ppm                   | Bony fill material for top layer, no garbage   |
| - 1        | 2 ppm<br>(Hnu)<br>0 ppm | Found 55-gallon drum on its side on north wall of northeast end of excavation, empty. Metal bedframe found about 2 feet north. |
| - 2        |                         |  |
| - 3        | 8 ppm                   | Found 5-gallon pail, crushed   |
| - 4        |                         |  |
| - 5        | 0 ppm                   | 2-gallon metal pail found with oily substance on it<br>Garbage and debris layer begins   |
| - 6        | 6, 11 ppm               |  |
| - 7        |                         | Small bike frame found   |
| - 8        | 0 ppm<br>(Hnu)          | Another 55-gallon empty drum found; Remington Rand Shaver Division written on top.   |
| - 9        |                         | A lot of glass, cans, bottles at this depth. A possible IV bottle was found. Large sheet of metal also found.                  |
| - 10       |                         |  |
| - 11       |                         |  |

## Comments

This excavation was started on September 9 with the Backhoe. Because only 12 feet was achieved, EPS re-excavated the hole with the excavator on September 10.

100146

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-2

| PROJECT: Old Amenia Landfill |                  | CONTRACTOR: Environ. Products and Services                          | DATE: Sept. 10, 1998           |
|------------------------------|------------------|---|--------------------------------|
| PROJECT NO.: 6130            |                  | LOCATION: Dutchess County, New York                                 | TIME: 0930                     |
| WEATHER: Sunny               |                  | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator                       | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             |                  | Length 32', Width 6', Depth 18'                                     |                                |
| Depth (ft)                   | OVA Readings     | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES                     |                                |
|                              |                  | Fill material begins again  |                                |
| - 12                         |                  | (Test pit completed 9/9/98).  |                                |
|                              |                  | **  |                                |
| - 13                         |                  | Garbage and debris layer starts again.                              |                                |
| - 14                         |                  | Bony fill material begins again.                                    |                                |
| - 15                         |                  |   |                                |
| - 16                         | 0.3 ppm<br>(Hnu) |   |                                |
| - 17                         |                  | Bottom of hole. DEC takes soil sample. Some moisture at this depth. |                                |
| - 18                         |                  |   |                                |
| - 19                         |                  |   |                                |
| - 20                         |                  |   |                                |
| - 21                         |                  |   |                                |
| - 22                         |                  |   |                                |

## Comments

\*\* Test pit excavated on 9/10/98 in same location using an excavator. Expanded test pit to include the 55-gallon drum on north wall.

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-3

| PROJECT: Old Amenia Landfill |              | CONTRACTOR: Environ Products and Services                          | DATE: Sept. 10, 1998           |
|------------------------------|--------------|--|--------------------------------|
| PROJECT NO.: 6130            |              | LOCATION: Dutchess County, New York                                | TIME: 0930                     |
| WEATHER: Sunny               |              | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator                      | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             |              | Length 32'. Width 6'. Depth 18'                                    |                                |
| Depth (ft)                   | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES                    |                                |
| 0                            | 0 ppm        | Typical bony fill material   |                                |
| 1                            |              |  |                                |
| 2                            |              |  |                                |
| 3                            |              |  |                                |
| 4                            |              | Washing machine found, garbage and debris layer begins.            |                                |
| 5                            |              | Fill material starts.  |                                |
| 6                            |              |  |                                |
| 7                            |              | Newspaper dated 1970 found, garbage and debris layer begins again. |                                |
| 8                            |              |  |                                |
| 9                            | 0 ppm        | Automobile gas tank found.   |                                |
| 10                           |              |  |                                |
| 11                           |              | Fill Material begins again   |                                |

## Comments

This excavation was started with the Backhoe, then finished with the excavator once it arrived onsite.

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-3

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | DATE: Sept. 10, 1998           |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 0930                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 32'. Width 6'. Depth 19'               |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES                               |
|------------|--------------|---|
| - 12       |              |   |
| - 13       |              | Garbage and debris layer starts again.  |
| - 14       |              |   |
| - 15       |              | Newspaper dated 1970 found.   |
| - 16       |              | Soil color becomes darker (brown).  |
| - 17       |              |   |
| - 18       |              | Found 5-gallon Texaco oil container, another 1970 newspaper, and a 1968 paper |
| - 19       | 0 ppm        | Bottom of hole, DEC takes soil sample.  |
| - 20       |              |   |
| - 21       |              |   |
| - 22       |              |   |

## Comments

A syringe was found in the debris pile, from unknown depth.

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100149

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-4

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ: Products and Services    | DATE: Sept. 11, 1998           |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 0850                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 25' Width 6' Depth 17'                 |                                |

| Depth (ft) | HNu<br>Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES                      |
|------------|-----------------|--|
| -1         |                 | Typical bony fill material.  |
| -2         |                 | Garbage and debris layer begins.                                     |
| -3         |                 |  |
| -4         |                 |  |
| -5         |                 | Several tires buried in this area, as well as small pieces of metal. |
| -6         | 0 ppm           |  |
| -7         |                 |  |
| -8         |                 | Two hot water heaters found at this depth.                           |
| -9         |                 |  |
| -10        |                 |  |
| -11        |                 |  |

Comments

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-4

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | DATE: Sept. 11, 1998           |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 0850                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 25'. Width 6'. Depth 17'               |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES |
|------------|--------------|---|
| - 12       |              | Garbage and debris continue.                    |
| - 13       |              |   |
| - 14       |              |   |
| - 15       |              | Fill material begins again.                     |
| - 16       |              |   |
| - 17       | 0 ppm        | Bottom of hole, no soil sample taken.           |
| - 18       |              |   |
| - 19       |              |   |
| - 20       |              |   |
| - 21       |              |   |
| - 22       |              |   |

Comments

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## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP- 5

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | DATE: Sept. 11, 1998           |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 1030                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 20', Width 5', Depth 17'               |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES   |
|------------|--------------|---|
|            |              | Typical bony fill material, large depression.   |
| 1          |              | Garbage and debris layer begins.  |
| 2          |              | Car bumper found.   |
| 3          |              |   |
| 4          |              |   |
| 5          |              |   |
| 6          | 1 ppm        | Purple-colored rag found, 25-30 garage receipts from Sharon Garage dated 1966.<br>Fill material begins again. |
| 7          |              |   |
| 8          |              |   |
| 9          |              |   |
| 10         |              |   |
| 11         |              |   |

Comments

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100152

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-5

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | DATE: Sept. 11, 1998           |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 1030                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 20', Width 5', Depth 17'               |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES                        |
|------------|--------------|--|
|            |              | Fill material continues.<br>Another IV bottle found.                   |
| - 12       | 2 ppm        | Garbage and debris begins again, DEC takes soil sample.                |
| - 13       |              | Fill material begins again, much more sandy than previous fill layers. |
| - 14       |              |  |
| - 15       |              |  |
| - 16       |              |  |
| - 17       | 0 ppm        | Bottom of hole, no soil sample taken.                                  |
| - 18       |              |  |
| - 19       |              |  |
| - 20       |              |  |
| - 21       |              |  |
| - 22       |              |  |

Comments

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## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-6

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | Sept. 11, 1998                 |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 1200                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 25', Width 5', Depth 13'               |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES  |
|------------|--------------|--|
|            | 0 ppm        | Typical bony fill material.  |
| -1         |              |  |
| -2         |              | Garbage and debris layer begins, bags of leaves, bottles, wood, and tires.                                       |
| -3         |              |  |
| -4         | 1 ppm        | Soil seems slightly damp, possibly runoff from the rise. soil appears gray in color, newspaper dated 1972 found. |
| -5         |              |  |
| -6         |              |  |
| -7         |              |  |
| -8         |              | Gravely sand fill material begins.   |
| -9         |              |  |
| -10        |              | DEC takes soil sample from this depth.   |
| -11        |              |  |

Comments

1001

u:\project.33\job#5179\plogs\Tp6

100154

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-6

| PROJECT: Old Amenia Landfill |              | CONTRACTOR: Environ. Products and Services      | DATE: Sept. 11, 1998           |
|------------------------------|--------------|---|--------------------------------|
| PROJECT NO.: 6130            |              | LOCATION: Dutchess County, New York             | TIME: 1200                     |
| WEATHER: Sunny               |              | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator   | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             |              | Length 25', Width 5', Depth 13'                 |                                |
| Depth (ft)                   | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES |                                |
|                              |              | Fill material continues.                        |                                |
| - 12                         |              |   |                                |
| - 13                         | 0 ppm        | Bottom of hole, no soil sample taken.           |                                |
| - 14                         |              |   |                                |
| - 15                         |              |   |                                |
| - 16                         |              |   |                                |
| - 17                         |              |   |                                |
| - 18                         |              |   |                                |
| - 19                         |              |   |                                |
| - 20                         |              |   |                                |
| - 21                         |              |   |                                |
| - 22                         |              |   |                                |

Comments

1001

100155

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-7

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | DATE: Sept. 11, 1998           |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 1355                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 30'. Width 6'. Depth 19'               |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES                  |
|------------|--------------|--|
|            |              | Garbage and debris layer continues.                              |
| -12        |              |  |
| -13        |              |  |
| -14        | 0 ppm        | Found steel pressure tank, 300-500 gallon, 36" diameter, 6' tall |
| -15        | 4 ppm        |  |
| -16        | 3 ppm        |  |
| -17        |              |  |
| -18        |              | Found newspaper dated 1974.                                      |
| -19        |              | Bottom of hole. DEC takes soil sample.                           |
| -20        |              |  |
| -21        |              |  |
| -22        |              |  |

## Comments

A lot of mimeograph paper (purple) was found throughout this excavation.

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-7

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | Sept.-11, 1998                 |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 1355                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 30'. Width 6'. Depth 19'               |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES  |
|------------|--------------|--|
|            | 0 ppm        | Typical bony fill material.  |
| - 1        |              | Garbage and debris layer begins.   |
| - 2        |              |  |
| - 3        | 0 ppm        | Garbage and debris is slightly damp, consists mostly of paper, plastic, wood, and glass. |
| - 4        |              |  |
| - 5        | 0.5 ppm      |  |
| - 6        |              |  |
| - 7        | 1 ppm        |  |
| - 8        |              | Newspaper dated 1974 found.  |
| - 9        | 2 ppm        |  |
| - 10       |              |  |
| - 11       |              |  |

Comments

100157

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP- 8

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | Sept. 11, 1998                 |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 1545                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 25', Width 6', Depth 17'               |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES    |
|------------|--------------|--|
|            | 0 ppm        | Typical bony fill material.                        |
| - 1        |              | Car bumper found, garbage and debris layer starts. |
| - 2        |              | Large boulder found, 4' by 6'.                     |
| - 3        | 0 ppm        |  |
| - 4        |              | Bony fill material begins again.                   |
| - 5        | 0 ppm        |  |
| - 6        |              |  |
| - 7        | 0 ppm        |  |
| - 8        |              |  |
| - 9        |              | Garbage and debris begins again.                   |
| - 10       |              |  |
| - 11       |              |  |

Comments

100158

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-8

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | DATE: Sept. 11, 1998           |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 1545                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 25', Width 6', Depth 17'               |                                |

| Depth (ft) | HNu<br>Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES  |
|------------|-----------------|--|
| -12        |                 | Garbage and debris layer continues.<br>Newspaper dated 1975 found.<br><br>Soil has reddish color, most likely from crushed bricks. |
| -13        |                 |  |
| -14        |                 |  |
| -15        |                 |  |
| -16        |                 |  |
| -17        |                 | Bottom of hole. DEC takes soil sample.   |
| -18        |                 |  |
| -19        |                 |  |
| -20        |                 |  |
| -21        |                 |  |
| -22        |                 |  |

Comments

100159

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-9

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | Sept. 14, 1998                 |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 0840                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 6', Width 4', Depth 4'                 |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES   |
|------------|--------------|---|
|            | 0 ppm        | Typical bony fill material.   |
| 1          |              |   |
| 2          | 0 ppm        |   |
| 3          |              | Top of 55-gallon drum found with "Geigy Agricultural Chemicals" written on top, dated 10/3/67   |
| 4          |              | Found 30-gallon metal container with plastic inner lining, containing white powder. DEC takes sample of white powder. This container was placed in an 85-gallon overpack. |
| 5          |              | Many similar containers can be seen in the excavation. Bottom of hole, no soil samples taken.   |
| 6          |              |   |
| 7          |              |   |
| 8          |              |   |
| 9          |              |   |
| 10         |              |   |
| 11         |              |   |

## Comments

No garbage was found in this excavation.

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100160

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-9A

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | Sept. 14, 1998                 |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 0840                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 8', Width 4', Depth 4'                 |                                |

| Depth (ft) | HNu Readings              | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES  |
|------------|---------------------------|--|
| - 1        | 0 ppm                     | 5 drums are visible at surface. 4 of the drums are empty. 1 contained a solid, cloudy substance. Used a hammer to break into small pieces. DEC takes sample of these pieces.   |
| - 2        | 20 ppm<br>15 ppm<br>15ppm | Drum found has a PID reading of 100 ppm. This drum contained a black, oily substance. DEC takes sample on the drum. The contents from this drum were placed in an 85-gallon overpack There are 5 more drums that are visible in the walls of the excavation. |
| - 3        | 15 ppm                    |  |
| - 4        |                           | This is the bottom of the hole, no soil samples taken.   |
| - 5        |                           |  |
| - 6        |                           |  |
| - 7        |                           |  |
| - 8        |                           |  |
| - 9        |                           |  |
| - 10       |                           |  |
| - 11       |                           |  |

## Comments

No garbage was found in this excavation.

100161



## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-9B

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | Sept. 14, 1998                 |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 0840                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 25', Width 4', Depth 4'                |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES  |
|------------|--------------|--|
|            | 0 ppm        | Sandy, brown fill material. Lots of root matter. |
| 1          |              |  |
| 2          | 0 ppm        |  |
| 3          |              |  |
| 4          |              |  |
| 5          |              |  |
| 6          |              | Bottom of hole, no soil samples taken            |
| 7          |              |  |
| 8          |              |  |
| 9          |              |  |
| 10         |              |  |
| 11         |              |  |

## Comments

No garbage or drums were found in this excavation.

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-9C

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | Sept. 14, 1998                 |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 0840                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 25', Width 4', Depth 4'                |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES        |
|------------|--------------|--|
|            | 0 ppm        | Sandy, brown fill material. Lots of root matter.       |
|            | 0 ppm        | Crushed drum found.                                    |
| - 1        |              |  |
| - 2        | 0 ppm        |  |
| - 3        |              |  |
| - 4        | 0 ppm        | Bottom of hole, no soil samples taken. Drum lid found. |
| - 5        |              |  |
| - 6        |              |  |
| - 7        |              |  |
| - 8        |              |  |
| - 9        |              |  |
| - 10       |              |  |
| - 11       |              |  |

## Comments

There was glass and plastic bottles in the top 6" of this excavation.

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100163

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-9D

|                              |   |                                |
|------------------------------|---|--------------------------------|
| PROJECT: Old Amenia Landfill | CONTRACTOR: Environ. Products and Services    | Sept. 14, 1998                 |
| PROJECT NO.: 6130            | LOCATION: Dutchess County, New York           | TIME: 0840                     |
| WEATHER: Sunny               | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             | Length 4', Width 4', Depth 6'                 |                                |

| Depth (ft) | HNu Readings | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES  |
|------------|--------------|--|
|            | 0 ppm        | Sandy, brown fill material. Lots of root matter. |
| 1          |              |  |
| 2          | 0 ppm        |  |
| 3          |              |  |
| 4          | 0 ppm        |  |
| 5          |              |  |
| 6          |              | Bottom of hole, no soil samples taken.           |
| 7          |              |  |
| 8          |              |  |
| 9          |              |  |
| 10         |              |  |
| 11         |              |  |

## Comments

No garbage or drums in this excavation.

100164

100164

## TAMS CONSULTANTS, INC.

## TEST PIT LOG

TEST PIT NO.: TP-9E

| PROJECT: Old Amenia Landfill |                   | CONTRACTOR: Environ. Products and Services  | Sept. 14, 1998                 |
|------------------------------|-------------------|---|--------------------------------|
| PROJECT NO.: 6130            |                   | LOCATION: Dutchess County, New York   | TIME: 0840                     |
| WEATHER: Sunny               |                   | EQUIPMENT: JD 410D Backhoe, JD 590D Excavator   | TAMS REP.: J. Egan, S. Deyette |
| WATER LEVEL: N/A             |                   | Length 30'. Width 20'. Depth 6'   |                                |
| Depth (ft)                   | HNu Readings      | SAMPLE DESCRIPTION, REMARKS AND STRATUM CHANGES   |                                |
|                              | 0 ppm             | 1 drum is exposed on the west side of the berm, and is leaking. Another 4 drums can be seen buried beneath the surface through a small hole in the berm. DEC previously sampled the soil underneath the drum on 9/8/98. |                                |
| - 1                          |                   |   |                                |
| - 2                          |                   |   |                                |
| - 3                          | 400 ppm<br>(Drum) | Find another drum on the north end of the berm, contains red/orange material with rubbery texture.  |                                |
| - 4                          | 12, 30 ppm        | 2 more drums are found on the south end of the berm. 1 of the drums contains a thick amber liquid in it. DEC takes a sample of the liquid. This drum had a PID reading of 4 ppm.  |                                |
| - 5                          |                   |   |                                |
| - 6                          |                   | Bottom of hole, no soil samples taken.  |                                |
| - 7                          |                   |   |                                |
| - 8                          |                   |   |                                |
| - 9                          |                   |   |                                |
| - 10                         |                   |   |                                |
| - 11                         |                   |   |                                |

## Comments

No garbage was found in this excavation. Estimate 10-12 drums in this area.

31001

100165

## **Appendix C**

### **Field Notes**

**100166**

PROPERTY OF:

T131

Name THMS CONSULTANTS, INC.

Address 300 BROADACRES DR  
BLOOMFIELD, NJ 07003

Phone (973) 338-6680

This book is published on a fine 50% cotton-content ledger paper,  
specially treated for maximum archival service, and protected by a  
water resistant surface sizing.

Projects OLD AMENIA TOWN LANDFILL SITE

WA # D003060-21

NYS DEC. SIT # 3-14-006

IIWA

9/9/98 - 9/16/98

MINGOLO PRECISION PRODUCTS, INC.

174 South Main Street  
HACKENSACK, NEW JERSEY 07601  
(201) 488-6300

Projects (continued)

9/8/98

ARRIVE ONSITE 0945.

MEET DAN VANDER, JEFF KONSIGER (NYSDEC), RAY BUDNICK (LANDOWNOR REP).

\* CALL EPS AND VERIFY PROPER EQUIP; CHAINSAW, ETC \*

TAKE SITE WALK FOR GENERAL LAYOUT W/EVERYONE. DECIDED NOT TO DIG AT TYP BASED ON SURFACE GARBAGE (VISIBLE); CAR, REFRIG, ETC.

LOCATION TPS HAS VISIBLE GARBAGE, AND DISTINCT "HUMPS" IN GROUND.

MR. BUDNICK ASKED ABOUT TOPSOIL ORIGIN; WILL FIND OUT FROM EPS.

JEFF ASKS ABOUT DEMARCATION OF EXCLUSION ZONE FOR VISITORS. MAKE W/ TAPE AND STAKES, WILL FOLLOW UP WITH JOHN.

SITE WALK CONCLUDES AT 1045. MR. BUDNICK OFFSITE.

RSD OFFSITE AT 1105.

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②

9/9/98

ARRIVE DOWNTOWN 0735

- NYSDA DOWNTOWN 5 PEOPLE

- TOWN W/ 2 EPS DOWNTOWN FOR OBSERVATION

- RAY BARNER DOWNTOWN

W/

START W/ WEST TEST PIT (DOWNTOWN) YESTERDAY  
BY JEFF K.MARKED OUT EXCLUSION ZONE (~25'  
FROM TP)EPS DOWNTOWN W/ 3 MEN, BACKDOOR TO 400  
AND LEVEL 3 EQUIPMENT

SETUP EQUIP UNTIL 0930

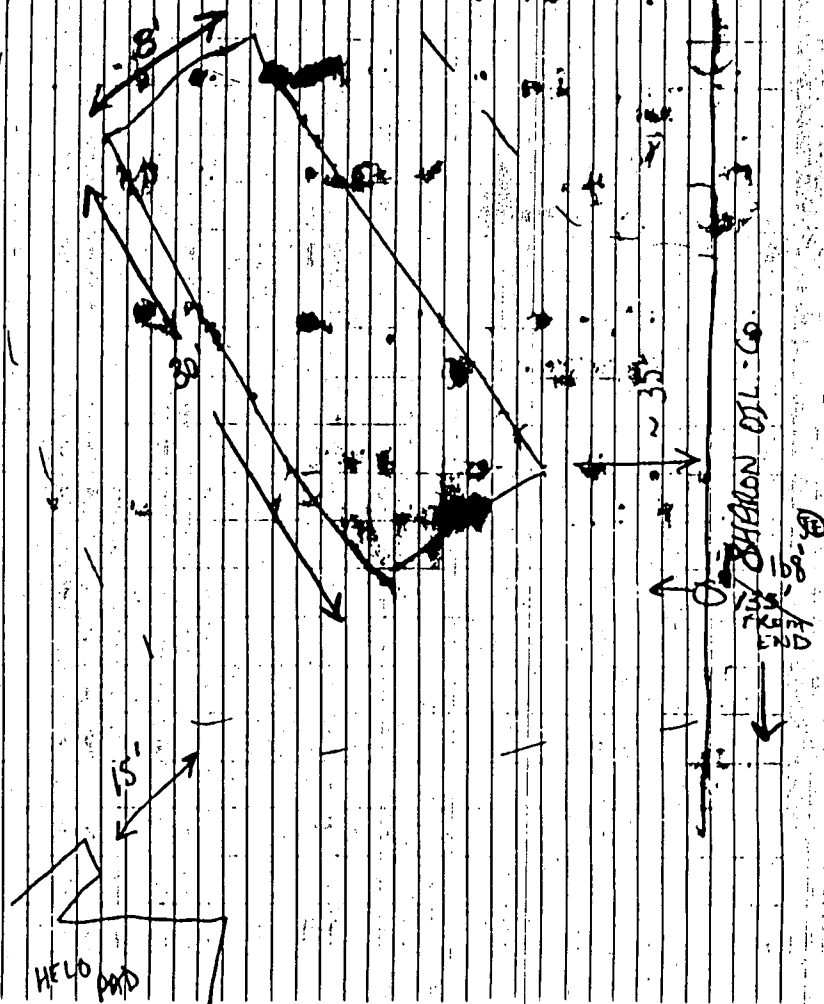
HOLD SAFETY MEETING AT 0935, CONCLUDES AT  
0945BEGIN DIGGING TP1 AT 10:10 ON NE END  
CHRIS USING FED METER, LEL METER, AND  
METERAD.

③

9/9/98 (CONT)

TEST PIT 1

EXCLUSION ZONE (~25')



100169



(4)

9/9/98 (CONT)

N ① 1013 24" 0  
- MATERIAL VERY BONY, GRAVEL, SOME GLASS BOTTLES

N ② 1022 20" 40 ppm (HOLE), 0 AT EXPOSURE LIMIT

N ③ 1037 48" 100 ppm (HOLE), 1 AT LIMIT  
MOSTLY GARBAGE, SHEET, BOTTLES, PAPER, ETC.

S ④ 1044 54" 80 ppm (HOLE), 1 AT LIMIT

N ⑤ 1055 60" 125 ppm (HOLE), 3 AT LIMIT  
- STRONG METHANE TYPE ODOUR UPON PULLING

MATERIAL OUT OF HOLE

E ⑥ 1105 96" 10 ppm (HOLE), 1 AT LIMIT  
- LARGE PIECE OF CONCRETE ~ 8' DEPTH, 5' WIDE, UNKNOWN LENGTH

- CHRIS BRINGS SAMPLE OF SLAB; DK GRAY COLOR, COARSE TEXTURE; TYPE 4 ROAD SUBBASE?

- NO READINGS ON FID OR HNU

- LARGE MASS W/TS FINALLY BROKEN THROUGH; ~ 6-8" THICK, CONTAINED NO REBAR.

- SOIL LAYERS ARE VERY DISTINCT. ~ 3' OF BACKFILL, ~ 3-4' OF GARBAGE, ~ 1-2' OF BACKFILL, ~ 1' OF GARBAGE

- FOUND NEWSPAPER DATED 1971 FOUND 7-8' DEPTH

9/9/98 (CONT)

- METAL LIDS FOUND ~ 7' DEPTH, ABOUT 1/2 WAY TOWARDS SW END, DOES NOT LOOK LIKE 55 GAL DRUM TOP

- BEGINS RAINING HEAVILY ABOUT 1230

- DIGGING COMPLETE AT 1300. DEC SAMPLES FROM BOTTOM OF TP AT SW END. WILL RUN FULL SCAN OF ANALYSIS

- FINAL DEPTH IS ONLY ~ 12; JEFF WOULD LIKE US TO BE AT LEAST 15, IF NOT MORE.

- CREWS BREAK FOR LUNCH, JOHN CONTACTS EFS TO SEE IF AN EXCAVATOR CAN BE BROUGHT TO SITE.

- CHRIS TAKES PERIMETER READINGS AT 1410; 0-1 ppm w/FID  
SOME FLUCTUATING READINGS AROUND STOCKPILE, WILL BACKFILL IN LEVEL B

- EXCAVATOR WILL BE ON SITE AT 12 NOON TOMORROW (9/10).  
BEGIN BACKFILL AT 1430; END 1530

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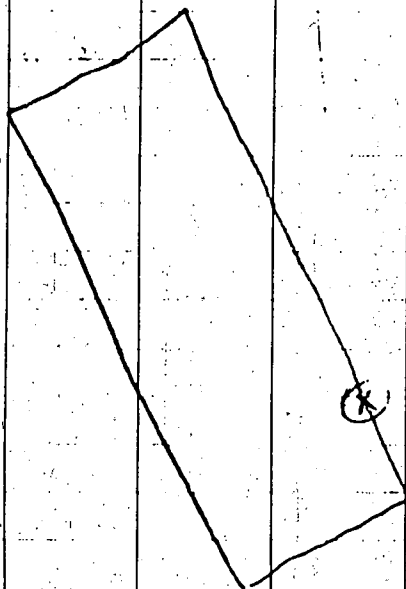
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⑥

9/9/98 (CONT)

TEST PIT 2

6' x 35' LONG

EXCLUDED  
ZONE  
LIMITNEW  
PAD

9/9/98 (CONT)

- TEST PIT 2 INSTALLATION BEGINS 1547 (2 LEVELS, 1 LEVEL)

- CURBS USING TED FOR AIR MONITORING

① 1553 EAST OF PIT, 0.75M AT HOLE

- TOP 3 IS VERT BONY MATERIAL, MEN SIZED ROCKS, NO GARBAGE

- 1-2 GILLON PAIL (METAL) FOUND AT ~4 1/2'; ONLY SUBSTANCE ON IT, NO READING

- ABOUT 5' OF BONY FILL MATERIAL ON TOP, BEGINNING TO BRING UP GARBAGE

- SMALL BIKE FRAME FOUND AT 7' DEPTH

- BRINGING UP LOTS OF GLASS, CANS, MORE OF TUCK TV BOTTLES AT ~9'.

- LARGE PIECE OF METAL SHEET AT 9'.

EPS STOP AT 1643 TO CHANGE AIR BOTTLES; START 1655

- FOUND DRAIN ABOUT 10" DOWN FROM SURFACE (AT X ON DIAGRAM), ON NORTH SIDE OF TP WALL. APPEARS TO BE HOLLOW AND PARTIALLY CENSURED. SMALL BUNCH OF DRAIN IS MISSING.

- AS DIG APPROACHED SW END, GARBAGE MIX WITHIN 1' OF SURFACE.

SHALLOW OFC

⑧ 9/9/98 (CONT)

- FOUND 5 GAL METAL PAIL, CRUSHED; 8 ppm. T.D. 1145  
 - COMPLETED TEST PIT AT 1735; BEGAN BACKFILL AT 1745,  
 END AT 1800 (1 LEVEL C).

|       |         |                             |
|-------|---------|-----------------------------|
| 5 1/2 | LEVEL B | 10-1, 2-30-3:30, 3:45-5:30  |
| 1/2   | LEVEL C | 5:30-6:00                   |
| 2     | LEVEL D | 8-10, 2-2:30 6:00-6:30 3:30 |

LUNCH 1:00-2:00

Total 9.5 h

9/10/98

SUNNY 60°

ARRIVE ON SITE 0800. DEC SAMPLING CREW ON SITE.  
 EPS ON SITE 0825; HAVE TO JUMP MACHINE AGAIN  
 DECON FROM 0835-0845

SET UP EXCLUSION ZONE + DECON FOR TEST PIT 3  
 JOHN K. E. ON SITE 0920  
 BEGAN TEST PIT 3 AT 0930, 2 LEVEL B, 1 LEVEL C  
 CHRIS USING T.D. METER FOR AIR MONITORING

0945 0 ppm. AT HOLE

FOUND LARGE METAL APPLIANCE ON WEST SIDE OF PIT; WASHING MACHINE  
 ~ 3-3 1/2' OF BOM. FILL MATERIAL, START BRINGING UP DEBRIS  
 - WASHING MACHINE FOUND AT 3 1/2' DEPTH

FOUND PICO NEWSPAPER AT ~ 7' DEPTH  
 WAS A 1-2' FILL LAYER AT ~ 5' DEPTH; GARBAGE ALARM AT 6 1/2-7'  
 DOWN TO 10' DEPTH

FOUND TRUCK/CAR GAS TANK AT ~ 9 1/2'

③ 1040 0 ppm. AT HOLE

EXCAVATION MOVES AT 1055; EPS STOPS DIGGING AT 1045 w/ BACKLINE,  
 ANN BEGINS DECON OF BUCKET. WILL FINISH PIT w/ EXCAVATOR.

⑨

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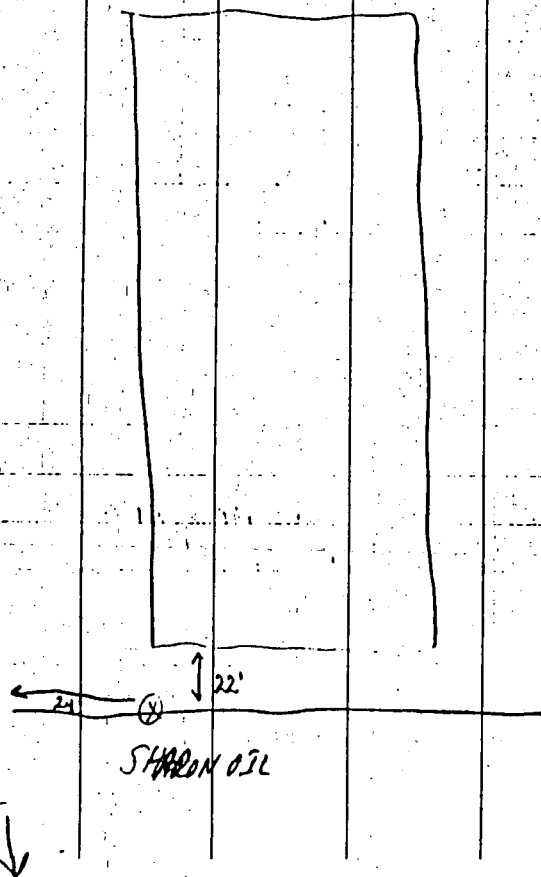
100172

⑩

9/10/98 (cont)

TEST PIT 3

6' x 32' x 18'



⑪

9/10/98 (cont)

BASED ON READINGS, WORK WILL RESTRICT IN LEVEL C

RESTRICT DIGGING AT 110G

EXCAVATOR IS JD590D (JOHN DEERE)

⑪ 125 0.5 ppm AT HUE, ~14'

SEEMS TO BE ANOTHER FILL LEVEL OF 1-2' AT 11' DEPTH

1970 NEWSPAPER AT ~15'

ACHIEVED 18' DEPTH AT NORTH END OF TP3

FOUND 2 CRUSHED PIECES OF METAL AT 18' ON SOUTHERN END OF TP

SOIL COLOR BECOMES DARKER AT 16-18'

FOUND 5 GALLON TEXACO OIL CONTAINER AT 18'

ANOTHER 1970 NEWSPAPER AT 18', SOUTH END

A PLUS NEWSPAPER FOUND AT 18', SOUTH END

DEC TAKES SAMPLE AT 19', AT SOUTHERN END

DIGGING COMPLETED AT 120G. READINGS TAKEN AT HOLE: 0 ppm.

ABLE TO ENTER IN LEVEL D FOR PHOTOGRAPHS. SYRINGE FOUND IN STOCK PILE FROM NORTHERN END, UNKNOWN DEPTH.

TESTPIT CONTAINED ORDINARY RUBBISH; NEWSPAPER, BOTTLES (CANS), WOOD, SMALL PIECES OF METAL.

5 gallon WHITE PLASTIC PAINT PAIL FOUND, CONTENTS DRY.

(12)

9/10/98 (CON)

BREAK FOR LUNCH AT 1230 1 MAN FROM EPS TO STW

AND BACKFILL LEVEL C

BACKFILL COMPLETE AT 1330 (MAN 1/2 LEVEL C); BOTH  
BUCKETS DECON'ED.

BEGIN REDIGGING TEST PIT 2 AT 1400; LEVEL C

MOVE ~ 1-2' NORTH OF DRUM, FOUND METAL BED FRAME

FOUND 5 gal TAIL OF "STRIPPIN-CLAWER", 0 ppm W/HAN

① 1420 18", 1-2' N OF DRUM, 0 ppm

DRUM WAS REMOVED FROM TEST PIT. PARTIALLY CRUSHED, EMPTY,  
NO MARKINGS, INITIAL READING OF 2 ppm INSIDE, THEN DOWN  
TO 0 ppmANOTHER DRUM FOUND 6-8' DOWN, UNDER LOCATION  
OF FIRST DRUM, SIDEWAYS ORIENTATIONREMNANT BAND, SHAW-DIVISION, WRITTEN ON TOP OF DRUM  
60 MAIN ST, BRIDGEPORT, CT.US PRODUCT (UNKNOWN WRITING), PITTSBURGH  
NO APPARENT SOIL STAINING AROUND DRUM, APPEARS EMPTY

# 09934 (PRODUCT #)

9/10/98 (CONT)

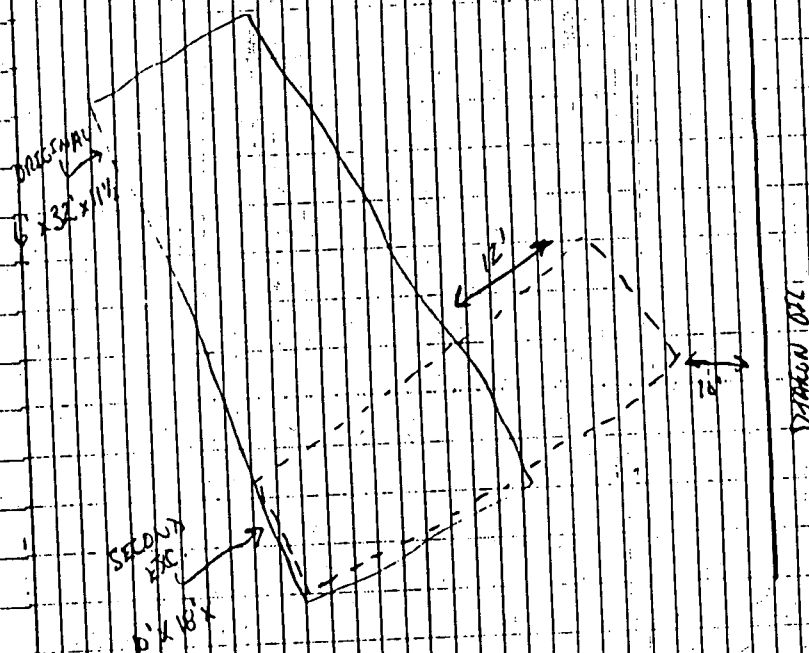
CONTINUE WITH TEST PIT 2 MOVING TOWARDS FENCE

STRANGE ODOR NOW COMING FROM EXCAVATION

READING ON LAST BUCKET FULL WAS 11 ppm, FROM ~6' DEPTH

ANOTHER READING FROM A PILE NEXT TO IT WAS 6 ppm

SECOND EXCAVATION AT TP 2:



STATION 021

(13)

(14)

9/10/98 (CONT)

② 1515 0.3 ppm (HOLE), ~ 16' DEPTH

- ACHIEVE 17' DEPTH, DEC TAKES SAMPLE HERE
- SOME MOISTURE AT THIS DEPTH
- COMPLETION AT 1545

BEGIN DIGGING OF TEST PIT 1 AT 1600 (2, LEVEL C)  
 ALSO BACKFILL TP2 (1, LEVEL C); BACKFILL COMPLETED AT 1715  
 DAN EATON (NYSDEC) WOULD LIKE TO DIG UP  
 DEPRESSION AT SW CORNER OF TP 1

DEBRIS IS WITHIN 6" OF SURFACE. SOIL IS DK BROWN/BLACK  
 IN COLOR

METAL BEDFRAME ~ 1' IN DEPTH

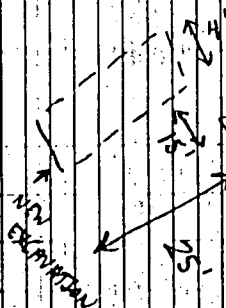
① 1613, ~ 6' DEPTH, PEAKED AT 3 ppm, SUSTAINS 1 1/2 ppm;  
 0 ppm IN HOLE

SE  
END  
TP OF  
 { TOOK CONTACT READING FROM BUCKET, 45 ppm  
 SECOND BUCKET READING AT > 100 ppm (CONTACT)  
 DEC TAKES SAMPLE FROM SECOND BUCKET, 120 ppm  
 DEPTH OF ~ 12'

(15)

9/10/98 (CONT)

RE-EXCAVATION OF TP 1



OPTIONAL  
DIG

Simon DC

(16)

9/10/98 (CONT.)

FILL LAYER WAS 6"-1' IN THICKNESS

DEBRIS LAYER FROM 1'-6'

6-12' IS FILL MATERIAL

CRUSHED 55 gal DRUM ~10' IN MIDDLE OF TEST PIT

② 1620, ~10' DEPTH, 1 ppm, SE END

③ 1630, ~11' DEPTH, 1 ppm, MIDDLE OF PIT

BUCKET FROM 14' DEPTH HAD CONTACT READING OF 30 ppm

ANOTHER CRUSHED DRUM TAKEN OUT AT THIS DEPTH  
NOT MUCH DEBRIS FOUND AT THIS DEPTH

TOOK READING FROM SOIL AT 17', AT 40 ppm AND 140 ppm

DEC TOOK SAMPLE FROM 17' IN MIDDLE OF TEST PIT;  
READING OF BETWEEN 100-300 ppm DURING SAMPLING

TP 1 COMPLETED AT 1700; BEGIN BACKFILL

BACKFILL COMPLETED AT 1730

DEC PERSONNEL OFFSITE AT 1735

EFS PERSONNEL OFFSITE AT 1735

RSB OFFSITE AT 1735

1 LEVEL B 9:30-10:30  
6 LEVEL C 10:30-12:00, 12:30-1:30, 2:30-3:30  
11 LEVEL D 8:30-9:30, 1:30-2:00

LUNCH 12-12:30

(17)

9/11/98

SUNNY 65°

ARRIVE ONSITE 0730

EXCAVATION (DEC) ONSITE 0750

EFS ONSITE 0800

INSTRUCTED EFS TO DIG SMALL HOLES AT TP 2 + 3 TO BURY  
CRUSHED DRUMS LEFT FROM EXCAVATION; BEGIN AT 0830

BEGIN TP 4 AT 0850, LEVEL C

ABOUT 2' OF BOM FILL MATERIAL ON TOP

HIT WATER AT 5'-6' STILL IN GARAGE; APPEARS

WATER MAY HAVE BEEN TRAPPED IN 2 LARGE TIRES THAT WERE  
BROUGHT UP. TOOK READING OF WET MATERIAL AT 0910,  
0 ppmQUITE A FEW TIRES BURIED IN THIS AREA, ALSO  
SEVERAL SMALL PIECES OF METAL (MUFFLER, PIPE, ETC.)

JOHN CONRAD (CONRAD CERESIENCE) ONSITE 0925

2 HOT WATER HEATERS FOUND ~8' DEPTH

EFS COMPLETED REBURYING DEBRIS AT TP 2 + 3 AT 0915

① 0935, ~17', READING FROM BUCKET, BOM FILL MATERIAL,  
0 ppm

DUG 17' AT NORTH END OF EXCAVATION

1001

100176

1001

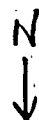
(18)

9/11/98 (cont)

TEST PIT 4  
6' x 25' x 17'



SHARON OIL



(19)

9/11/98 (cont)

COMPLETED TPN AT 1000

FILL MATERIAL FROM 5'-7' DEPTH

BEGIN TPS AT 1030, LEVEL C ALSO BEGIN FILL TILL  
IF TPN (LEVEL C)

DEBRIS WITHIN 1' OF SURFACE HERE LARGE DEPRESSION,  
10' x 25'

CAR BUMPER FOUND ~ 2' DEPTH

FOUND PULVER RAC ~ 6' DEPTH, 1 PPM

BRUNCH OF GARAGE RECEIPTS (SHARON GARAGE) FOUND ~ 6',  
DATED 1966

GARBAGE LAYER EXTENDS DOWN TO 6', THEN FILL MATERIAL  
FOR ~ 6'

DEC TOX SAME AT 12', 2 PPM REMAINING, FROM NORTHEND.

ACHIEVED 17' DEPTH, STILL FILL MATERIAL (FROM 12'-17')

FOUND IN BOTTLE AT 11-12' DEPTH

COMPLETED TPS AT 1120

COMPLETED BACKFILL OF TPN AT 1140

FILL MATERIAL WAS MUCH MORE SANDY THAN TDI MATERIAL,  
NOT AS BULKY

100177



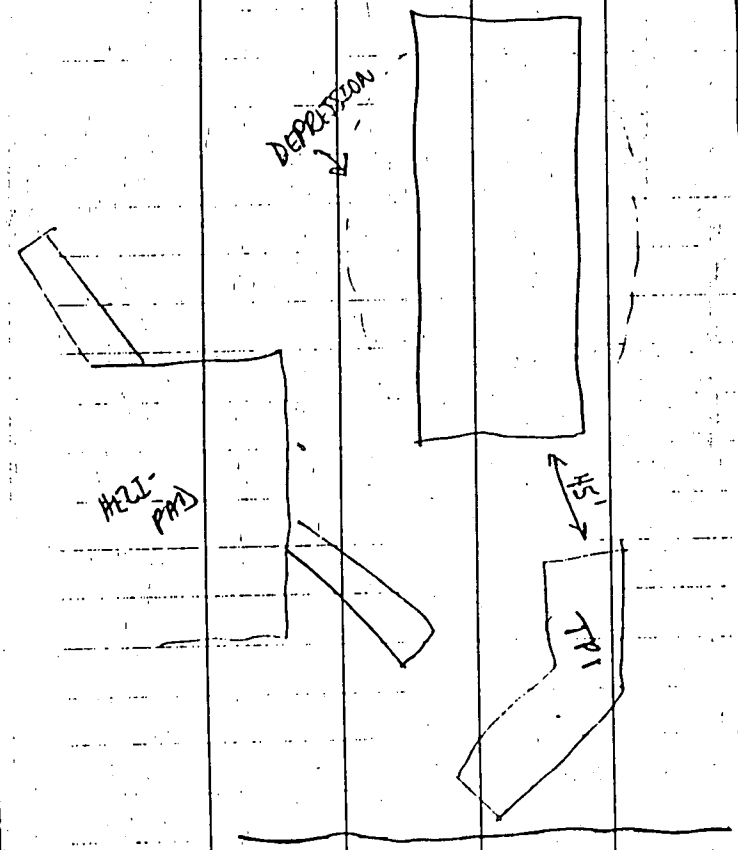
1001

(20)

9/11/98 (cont)

TEST PIT 5

5' x 20' x 17'



N  
↓

SHADON  
OIL

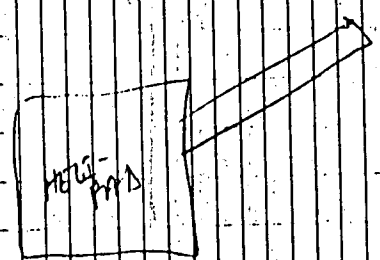
SPRINGS

(21)

9/11/98 (cont)

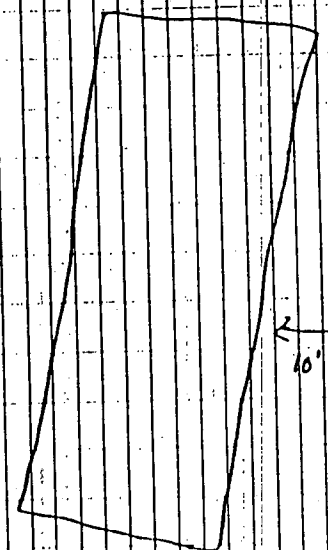
TEST PIT 6

5' x 25' x 13'



N  
↓

RT 22



SHADON  
OIL

10'

200'

WOODS

100178

031061

100179

(22)

9/11/98 (cont)

BEGAN TPG AT 1200 (LEVEL C), BEGAN BACKFILL OF TPG AT 1205

2' OF BONY FILL MATERIAL ON TOP

GARBAGE AT 2' LEVEL, BAGS OF LEAVES, GLASS BOTTLES  
WOOD, THICK, ETC.SOIL ~4" SEEMS A LITTLE MORE MOIST, POSSIBLY  
RUNOFF FROM RISE

GRAY SOIL FOUND ~4", 1 ppm 1215

NEWSPAPER FOUND AT 4", DATED 1972

TOOK READING OF BUCKET AT 1215, 0 ppm, 13'

MATERIAL AT THIS LEVEL IS SANDY CONSISTENCY

DEC TAKES SAMPLE FROM SOIL PILE FROM 9-10' DEPTH

3' GRAVEL TO PLAYER

6' GARBAGE

5-6' OF GRAVELY SAND (BOTTOM OF HOLE)

COMPLETED TPG AT 1225

LUNCH 1230-130

(23)

9/11/98 (cont)

BEGAN BACKFILL OF TPG AT 1315 (LEVEL D)

BEGAN TP 7 EXCAVATION AT 1355 (LEVEL C)

~1' BONY FILL MATERIAL ON TOP, GARBAGE STARTS

① 1400, 2-3, 0 ppm (AT HOLE), SOUTH END

BACKFILL OF TPG COMPLETED AT 1405

② 1407, 4-5', 0.5 ppm (HOLE)

③ 1410, 5-6', 1 ppm (HOLE)

GARBAGE CONSISTS MOSTLY OF PAPER AND PLASTIC, WOOD,  
GLASS, ETC. APPEARS SLIGHTLY DAMP

NEWSPAPER DATED 1971 FOUND ~8' DEPTH

④ 1416, 8-9', 2 ppm (HOLE)

⑤ 1430, ~5', 4 ppm (HOLE - READING FROM BUCKET)

BOTTLE WHAT LOOKS LIKE AN OLD PEPSI BOTTLE (300-500ml)  
FROM ~4' DEPTH, 36" DIAM, 5-6" TALL

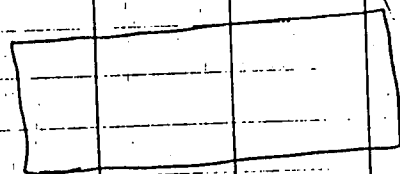
⑥ 1500, 16' DEPTH, 3 ppm (HOLE), MIDDLE OF PIT

(24)

9/11/98

TEST PIT #7

SURFACE



N →

Rt 22

9/11/98 (WMT)

AQUICLUD 19' DEPTH

FOUND 19TH NEWSPAPER 18-19' DEPTH

COMPLETED TP AT 1510

TOOK THREE SAMPLE FROM BUCKET AT ~19' DEPTH

FOUND LOTS OF MONOGRAPH PAPER (PURPLE COLOR)

THROUGHOUT HOLE

BEGAN BACKFILL OF TP7 AT 1535 (LEVEL D)

BEGAN EXCAVATION OF TP8 AT 1545 (LEVEL C)

CAR BUMPER WITHIN 1' OF SURFACE

LESS THAN 1' OF COVER MATERIAL

LARGE BOULDER 8' X 6' 1-2' DEPTH

- ① 1555, 2-3' DEPTH, Gpm (IN HOLE), NW END
- ② 1602, 4-5' DEPTH, Gpm (IN HOLE), NW END
- ③ 1605, 6' DEPTH, Gpm (FROM BUCKET)

NEWSPAPER DATED 1975 FOUND AT 11-12' DEPTH

SOIL AT 12-14' DEPTH HAS RUDDY COLOR TO IT, POSSIBLY  
BRICK1' OF FILL MATERIAL, 3' GARBAGE LAYER, 5' FILL LAYER, GARBAGE TO THE  
BOTTOM

(25)

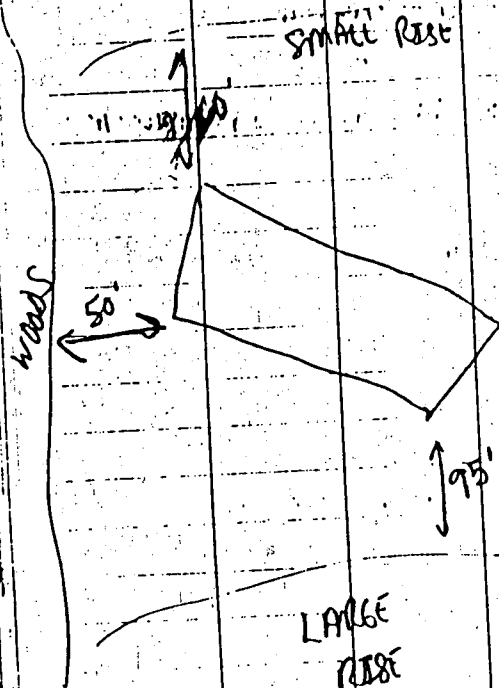
1001

(24)

9/11/98 (CONT)

TEST PIT #8

6' X 25' X 17'



N

9/11/98 (CONT)

ACHIEVED 17' TOTAL DEPTH

COMPLETED TP 8 AT 1620

DEC TREE SAMPLE FROM BUCKET AT 17' DEPTH

EPC CREW TAKES EXCAVATOR BACK TO TP 9 AT 1640 TO BEGIN CLEARING TREES; WILL DIG TP ON MONDAY 9/14/98

BACKFILL OF TP 7 COMPLETED AT 1645

BEGIN BACKFILL OF TP 8 1650 (LEVEL D); COMPLETED AT 1700

JOHN COWARD OFFSITE 1700

DEC CREW OFFSITE 1700

CREW STOPPED CLEARING WORK AT 1700 (TP 9)

IN LEVEL C 830-1230, 130-1430

LUNCH 1230-130

IN LEVEL D 1430-1530, 1530-1630

100181

(28)

9/14/98

ARRIVE ONSITE 0745

DEC ONSITE 0810

EPS ONSITE 0820

EPS STARTS CLEARING ROAD TO TP9 AT 0840.  
ONCE ROAD CLEARED FOR VEHICLES, EPS BEGINS  
CLEARING WOODS IN FRONT OF LARGE BERM. A TOTAL  
OF 12 VISIBLE DRUMS WERE LOCATED ALONG  
THE SMALL RISE. SOME ARE PARTIALLY CAUSHED,  
ALL LOOK EMPTY.

BEGIN TP9 EXCAVATION AT 0930. LEVEL C  
INITIAL READINGS W/ HNU WERE NEGATIVE  
(0 ppm)

BEGIN DIGGING AT SOUTH END OF SMALL  
SWALE

FOUND SMALL METAL CONTAINER WITH WHITE POWDER  
IN IT (~30 gal CONTAINER)

STOP DIGGING TO REMOVE AS MUCH OF POWDERED  
SUBSTANCE AS POSSIBLE TO BE OVERPACKED ANOTHER  
METAL CONTAINER WITH PLASTIC LINING AND WHITE POWDER  
FOUND (~1 lb). DEC TAKES SAMPLE OF POWDER  
GEIGY AGRICULTURAL CHEMICALS NEW YORK

267334 C/1

5# WRITTEN IN MARKER

DATED 10/3/67 ← UNDER

MADE IN SWITZERLAND

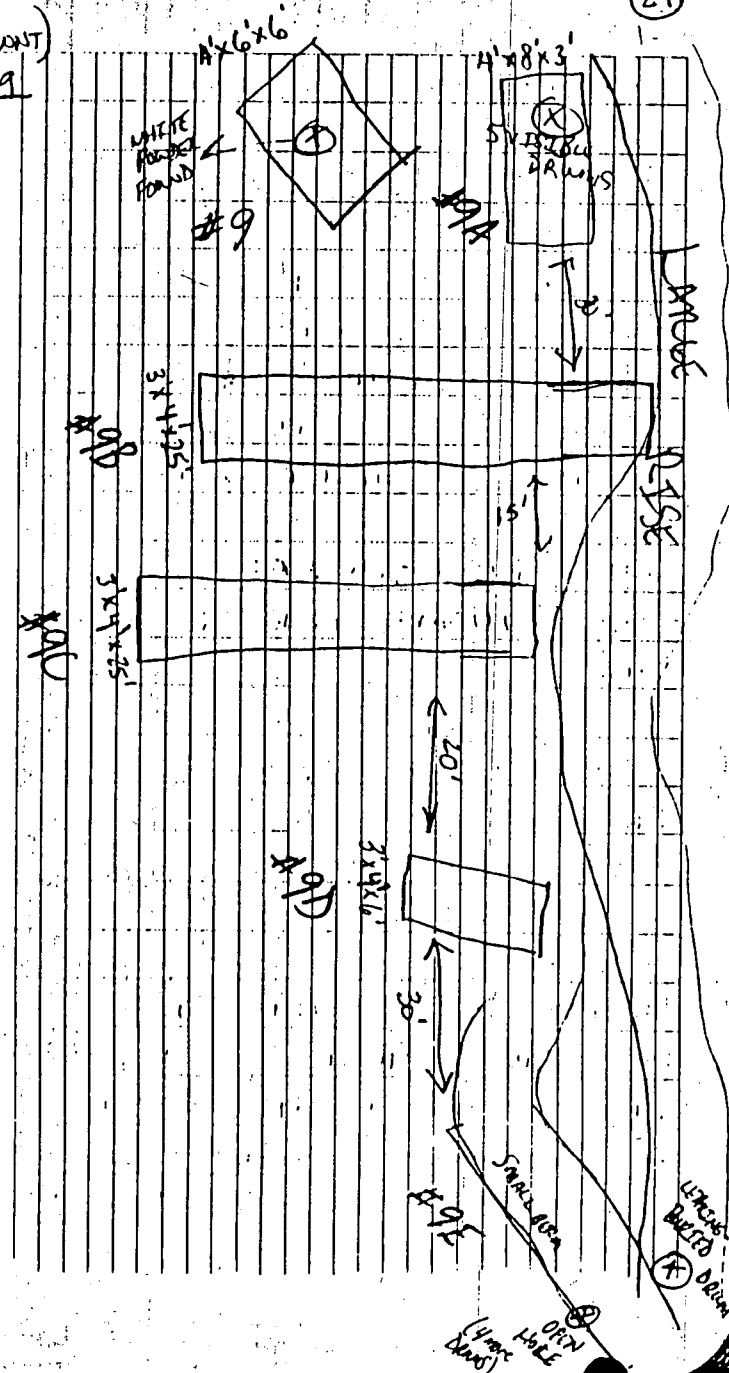
#9005 IN MARKER

9/14/98 (CONT)

EPS OCT 9

N

V



1001

100183

(2)

9/14/98 (CONT)

VERY STRONG PESTICIDE TYPE ODOR COMING FROM EXCAVATION AND METAL AND POWDER REMOVED FROM HOLE. NO READING ON HNU.

DRUM THAT EXCAVATOR RIPPED INTO IS LINED WITH PLASTIC (SAME AS SMALL CAN)

DECIDED THAT OVERPACKING POWDER WAS NOT PRODUCTIVE; TOO MUCH WAS BLOWING AWAY OR SPILLING. DECIDE TO REBURY PRODUCT AND MARK FOR FUTURE REFERENCE. THERE WERE MANY SMALL METAL CONTAINERS CONTAINING WHITE POWDER IN THIS AREA

BEGIN EXCAVATING ON WEST SIDE OF POWDER DUMPING AREA WHERE 5 VISIBLE DRUMS ARE

(1) 1035, READING FROM DRUM REMOVED FROM HOLE, 0 ppm

(2) 1039, 3<sup>rd</sup> DRUM, 0 ppm

(3) 1043, 4<sup>th</sup> DRUM, 1 ppm

PROPERTY OWNER FROM PROPERTY TO THE SOUTH OF US STOPPED BY (AL ROY BUDNEX) TO BE SURE WE KNEW WHERE PROPERTY BOUNDARY IS. SAID HE BELIEVES THAT FORMER LANDFILL OWNER HAS DOZEN BACK HERE TO THIS AREA IN. HE DOESN'T BELIEVE LARGE PILE IS NATURAL

(3)

9/14/98 (CONT)

2049, INSIDE 5" DRUM, HNU METER TAPPED SCALE, BLACK SUBSTANCE INSIDE. DEPTH OF 2-2'2" (100 ppm)

SOME LIQUID SPLASHED OUT; DEC WILL SAMPLE SOIL FOR HNU SCAN

THIS DRUM WAS OVERPACKED BY EPS. SMELL SEEMS TO BE SAME AS TP1, WHOSE READINGS WERE BETWEEN 100-300 ppm. IN ADDITION TO THE 5 VISIBLE DRUMS IN THIS LOCATION, THERE 3 MORE BURIED HERE

D 1140, PULSED DRUM, 20 ppm

CONSTANT READING OF 15 ppm IN EXCAVATION. CAN SEE AT LEAST 5 DRUMS IN WALL OF EXCAVATION (BOTH SIDES) STOP AT 12 NOON FOR LUNCH

DRUMS ARE 1 DEEP ON EAST SIDE OF TRENCH, 2 DEEP ON WEST SIDE

RETURN FROM LUNCH AT 1:00; BEGIN DIGGING AT 1:30

REL C) # 98 NEW PIT ~ 30' NORTH OF 2<sup>nd</sup> DIG (SEE DIAGRAM p 29)

D 1350, WEST END (INTO LARGE DRUM), ~ 2', 0 ppm

FOUND TOP OF DRUM, 0 ppm

100184

9/14/98 (WNT)

NO DRUGS IN THIS PET

1 #9B(αλ)

#9C

BEGAN ANOTHER PET 15' NORTH. FIND CRUSHED  
DRUM WITHIN 6" OF SURFACE, Dppm

|           |                                    |  |  |  |
|-----------|------------------------------------|--|--|--|
| Drum      | (L) FOUND ~4' DOWN, ON EAST END OF |  |  |  |
| PST, DERM |                                    |  |  |  |

NOTHING FOUND IN THIS PIT

#90

BEGAN NEW PIT ANOTHER 20' NORTH; JUST BEYOND  
VISIBLE DEER CARCASS. THIS PIT ONLY 6' LONG;  
NOTHING FOUND.

EPS TO JUMPSTART BACKHOE TO BEGIN BACKFILLING  
TRENCHES

第 9 页

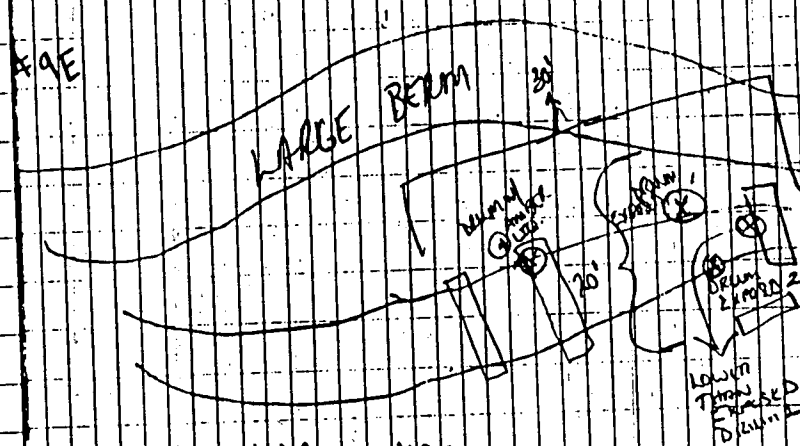
MOVE TO BERM WHERE LEAKING DRUM ON ITS SIDE IS  
LAYING (FACING WEST); FOUND ANOTHER DRUM ON EAST  
SIDE OF SAME BERM WITH LARGE HOLE. 1" VISIBLE  
NEAR DRUM.

BEGIN BACKFILLING PITS AT 1500.

11498 (cont)

UPON CLEARTING AWAY BRUSH, A MORE BURIED DRUMS CAN  
BEEN IN OPEN HOLE

THESE BUILT DRUMS ARE IN THE SMALL MAN-MADE BUZU,  
POINTING DOWNHILL TOWARD THE POND (NW). IT LOOKS LIKE  
THERE MAY HAVE BEEN A ROAD HERE AT ONE TIME.



1537 READING IN DRUM, 400 ppm

1. NOT DIG LOWER THAN THIRD DRUM FOUND  
 2. CORE OF HEAVY RAIN LOOSE SOIL CAUSING DRUMS TO  
 ROLL DOWN HILL THIRD DRUM FOUND WAS CRACKED / RED  
 (DUSTY) RESIN IN IT, RUBBERY TEXTURE. ANOTHER  
 DRUM WAS FOUND DOWN THE HILL & (W) DOLLAR  
 WE ARE DIGGING W/ RED / BLACK RESIN IN IT, BUT  
 MUCH HARDER

(34)

9/14/98 (cont)

DISTANCE FROM WEST-EAST IS ~20' DRUMS ARE BOTH SINGLE AND DOUBLE LAYERS.

2 DRUMS FOUND ON SOUTH END OF TRENCH WERE 30 ppm AND 12 ppm RESPECTIVELY.

1 DRUM CONTAINS AN AMBER LIQUID IN IT, 4 ppm DEC TO TAKE SAMPLE. LIQUID IS VERY THICK.

STOPPED EXCAVATION OF TP9 AT 1635.

ESTIMATE 10-12 DRUMS IN THIS AREA

BACKFILL COMPLETE AT 1730

EPS OFFSITE AT 1745

6 1/2 HRS LEVEL C 9:30-12

2 HRS LEVEL D 8:15-9:30

8:15 - 9:30 Level D 12:1

9:30 - 12:00 k

4  
12-1:14

1:30-17:30

1:11-1:30 17:30-17:45

12:5

9/15/98

ARRIVE ON SITE 0735

EPS ON SITE 0825 W/ FIRST LOAD OF TOPSOIL

BEGAN SPREADING TOPSOIL ON TP2

WENT AND PURCHASED 5 BAGS OF SHREDDED STRAW, 25 LBS OF ELOBY PERENNIAL R/EGRASS, AND A 20 LB BAG OF 13-25-12 FERTILIZER FROM HILVERTON AGRWAY

LAYER 6M PLASTIC ON DRUM AREAS AT TP9, AND FILL LOOSELY WITH SOIL.

MARKED TP2 WITH STAKES AND RIBBON, AFTER SOIL, FERTILIZER, AND STRAW WERE APPLIED.

CHRIS G. BEGINS DECON OF EXCAVATOR AT 1150, COMPLETED 1245.

TP1 AND 2 HAD TOPSOIL FROM

TP3-8 HAD TOPSOIL FROM ALLEN SAND + GRAVEL

TOPSOIL INSTALLATION COMPLETE AT 1530

EPS DECONS BACKHOE TO 1605

EPS OFFSITE AT 1630

RSD OFFSITE AT 1630

(35)

100185



# TRILOGY PERENNIAL RYEGRASS BLEND

## PURE SEED:

|                               |        | GERM% | DATE  | ORIGIN |
|-------------------------------|--------|-------|-------|--------|
| PENHANT II PERENNIAL RYEGRASS | 39.13% | 90    | 11/97 | OREGON |
| WIZARD PERENNIAL RYEGRASS     | 29.51% | 90    | 12/97 | OREGON |
| ICE PERENNIAL RYEGRASS        | 29.29% | 90    | 10/97 | OREGON |

## OTHER INGREDIENTS:

|                  |       |       |
|------------------|-------|-------|
| OTHER CROP SEEDS | .56%  | AMS62 |
| INERT MATTER     | 1.48% |       |
| WEED SEEDS       | .03%  |       |

NOXIOUS WEED SEEDS: NONE FOUND

LOT# L6-1681

NET WEIGHT: 50 LBS.

CARQUAIL  
DRAWER B, 831 ROUTE 28  
HIVERVILLE, NY 12130

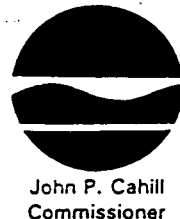
9/15/98 (cont)  
FILLING BORDERS OF TURFGRASS FROM POLONIOUS SAND + GRAVEL  
IN DOWIE PLOTS, EAST FROM ALLEN SAND + GRAVEL

11/10/98  
APPLIED BASELITE AT 0930.  
PULVERIZED 6 INCHES OF STRAW AND 10 LBS  
SEED FROM 16 LBS.  
FINISHED SEEDING AND MULCHING AT 1115  
RBD OFFSITE AT 1130

100186

21001

**New York State Department of Environmental Conservation**  
**Division of Environmental Remediation, Room 260B**  
50 Wolf Road, Albany, New York 12233-7010  
Phone: (518) 457-5861 FAX: (518) 485-8404



Mr. Richard Caspe  
Director  
Emergency & Remedial Response Division  
USEPA, Region II  
290 Broadway  
New York, New York 10007-1866

Dear Mr. Caspe:

RE: **Amenia Town Landfill Site (#3-14-006)**  
**Amenia (T), Dutchess County**  
**Request for Emergency Removal**

The New York State Department of Environmental Conservation (NYSDEC) hereby requests the United States Environmental Protection Agency (USEPA) to perform an appropriate CERCLA/SARA authorized emergency response action at the **Amenia Town Landfill** located on Rt. 22 in the Town of **Amenia** in Dutchess County, New York.

The site is located in a relatively rural area although portions of the **Island Green Country Club** golf course are located less than 1000 feet from the southern portion of the site. The majority of the site consists of an open field but the site also includes a paved helicopter landing pad and a small fenced propane and oil storage facility. The southern portion of the site includes an access road which runs through a wooded area of the site. A steep ravine runs along the entire western side of the site and descends into a wetland.

Previous site investigations by NYSDEC standby contractors have uncovered numerous buried and partially buried drums in the wooded southern portion of the site near the top of the slope to the wetlands. An estimated 30 fifty-five gallon drums of spent solvents, pesticides, and other unknown wastes were identified. The total extent of drum disposal in this area is unknown. Evidence of past and ongoing releases were witnessed and documented by NYSDEC staff during the test pit investigations.

Due to indications that a release is both ongoing (i.e., visible stains originating from containers, solvent odors, deteriorating/bulging containers) and imminent, it is necessary that a timely response action be undertaken to stabilize, identify, and dispose of these materials properly.

200001

Mr. Richard Caspe

Page 2

A site meeting and walk over has been scheduled for October 7, 1998. NYSDEC staff will provide EPA staff with additional site information at that time. If you have any questions, please contact Jeffrey Konsella at (518) 457-0414 or Thomas Vickerson at (518) 457-7878, both of my staff.

Sincerely,



Michael J. O'Toole, Jr.

Director

Division of Environmental Remediation

cc: B. Sprague - USEPA Region II, Edison, NJ  
R. Salkie - USEPA Region II, Edison, NJ  
G. Zachos - USEPA Region II, Edison, NJ

bcc: M. O'Toole (2)  
T. Quinn  
A. Klaus - NYSDEC, Region 3  
R. Pergadia - NYSDEC, Region 3  
R. Rusinko - NYSDEC, Region 3  
E. Belmore  
C. Jackson  
J. Konsella ✓  
H. Koelling  
T. Vickerson  
Dayfile

TV disc:epaamenia.wpd

200002

# FACT SHEET

*Superfund Removal Program*

**EPA**

Region 2

**Amenia Town Landfill**  
**Amenia, New York**

**December 1998**

## INTRODUCTION

The U.S. Environmental Protection Agency (EPA) has stabilized hazardous substances found at the Amenia Town Landfill Site (Site) located on the west side of Route 22, 1.5 miles south of Route 44 in Amenia, Dutchess County, New York. Buried drums and contaminated soil identified, in two areas of the landfill, by the New York State Department of Environmental Conservation (NYSDEC) have been excavated from the landfill, secured, sampled and prepared for removal from the Site.

Because the hazardous materials found were stored in leaking or deteriorating containers, EPA was concerned that they could pose a danger to the environment and wildlife if left at the landfill in the condition in which they were found. Rainwater runoff from the landfill, which could potentially pick up the contaminants, drains onto a wetland adjacent to the Site.

EPA began the cleanup on October 15, 1998 and completed the work on November 20, 1998. A total of 197 drums were excavated from the Site. Thirty of these drums were found to be empty. The additional 167 drums were repackaged in proper containers in order to secure the materials they contain. These drums are being temporarily stored on the north end of the Site. Approximately 220 cubic yards of contaminated soil was also excavated and is temporarily stored at the Site. The pile is covered with a plastic tarp and a berm was constructed around the contaminated soil pile to reduce additional contamination from rainwater runoff.

Currently, samples of the materials in the drums and the excavated soil are being analyzed to determine the appropriate method of permanent disposal for these materials. EPA plans to remove the materials for permanent disposal over the next several months. Though only temporarily being stored at the Site, the materials are safely contained in their current condition.

EPA is addressing this Site under the Superfund removal program. To date, approximately \$160,000 has been spent for the clean up of the Site. Additional funding will be required for the disposal of this material.

Representatives for the Town of Amenia and the NYSDEC as well as the property owner have visited the Site to monitor EPA activities and examine the material being excavated.

## BACKGROUND

The landfill was operated as a municipal landfill from the late 1940's to 1976 when it was officially closed.

A Phase I investigation was conducted by the NYSDEC in August 1986 to identify potential hazards at the Site. This investigation concluded that sampling was necessary to confirm the presence of hazardous wastes at the Site and to determine if the contamination presents a significant threat to human health or the environment.

**300001**

In the fall of 1991, the NYSDEC conducted an investigation at the landfill during which they performed a geophysical and soil gas survey, in addition to soil, surface water and sediment sampling and analysis. The results of these tests were reported in the April 1993 Phase II Investigation Report which indicated several areas of suspected buried drums. In September 1998, test pits were excavated in these areas to verify the presence or absence of buried drums on Site. Drums containing material were found in the southwest portion of the property. Samples collected from the drums and nearby soil were found to contain solvents, pesticides, and other wastes. Upon determining that the drums and surrounding soil contained these hazardous materials, NYSDEC referred this portion of the Site to EPA for cleanup under the Superfund Program.

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## OTHER SOURCES OF INFORMATION

### *Information Repository*

EPA will establish an information repository where members of the community can review documents related to EPA's activities at this Site. The information repository will be available for review at:

**Amenia Library**  
Main Street, Amenia, New York 12501  
**Phone:** (914) 373 - 8273  
**Hours:** Mon, 10am-5pm; Tues, 1pm-6pm;  
Wed 10am-12pm & 3pm-7pm;  
Th, 1pm-6pm; Fri, 10am-5pm;  
Sat, 9am - 2pm; Sun, closed

### *Superfund Ombudsman*

EPA, Region 2 has designated an ombudsman as a point-of-contact where the public can call to express their concerns or register complaints about the Superfund program. To support this effort, the agency has established a 24-hour, toll-free number. The ombudsman for EPA's Region 2 office is:

George H. Zachos  
U.S. EPA, Region 2  
2890 Woodbridge Avenue MS-211  
(732) 321-6621  
Toll-Free 888-283-7626

*For general information on EPA, Superfund,  
and other environmental topics:  
<http://www.epa.gov/Region02>*

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